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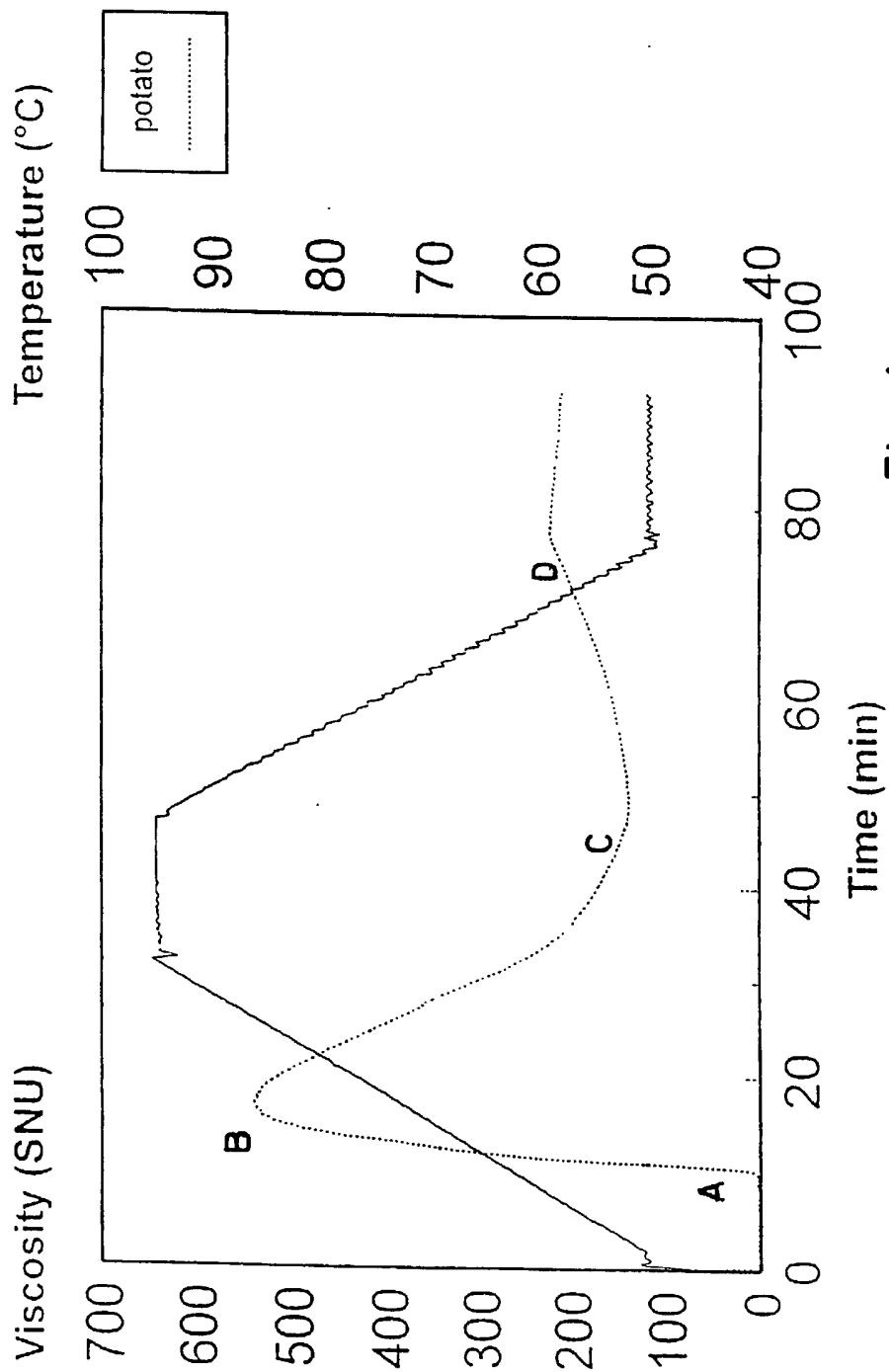


Fig. 1

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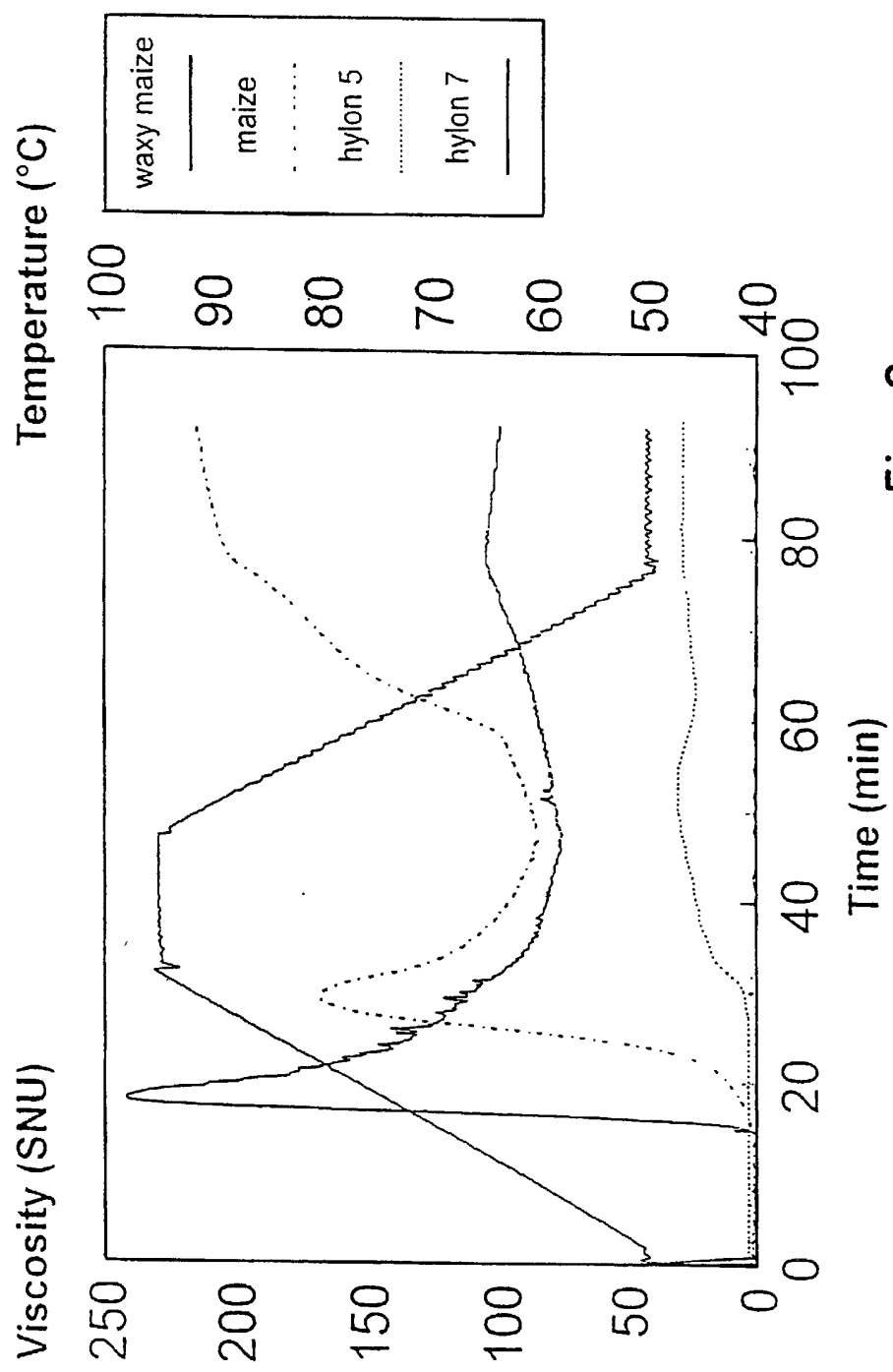


Fig. 2

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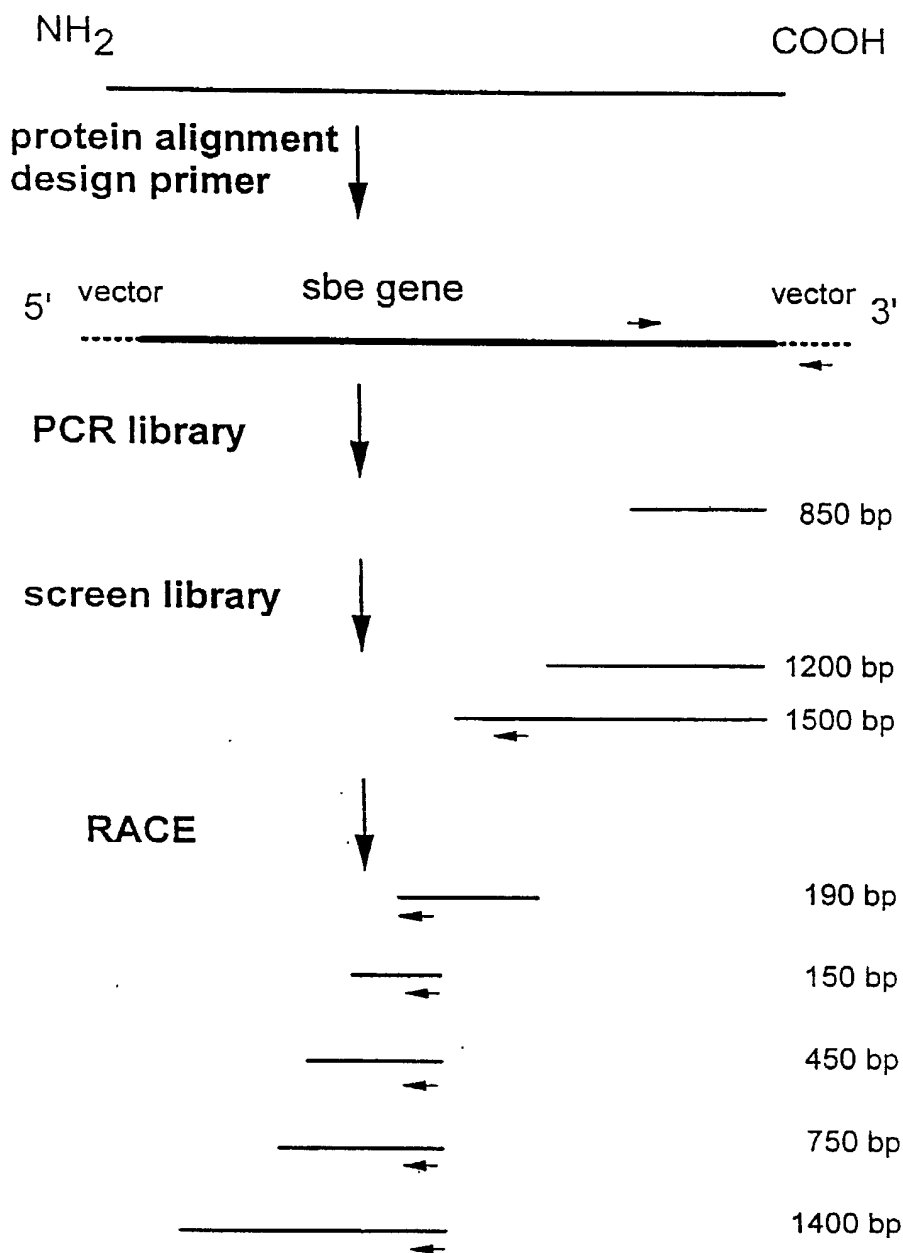


Fig. 3



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Fig.4a  
Sheet 2

|          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Majority | P | A | S | P | T | I | D | R | G | I | A | L | H | K | M | I | H | L | I | T | M | G | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| maize 2  | P | S | T | P | T | I | D | R | G | I | A | L | H | K | M | I | R | L | I | T | M | G | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| pea 1    | P | S | T | P | L | I | D | R | G | I | A | L | H | K | M | I | R | L | I | T | M | G | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| maize 1  | P | A | S | P | T | I | D | R | G | I | A | L | H | K | M | I | H | F | I | T | M | A | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| rice 1   | P | A | S | P | T | I | N | R | G | I | A | L | H | K | M | I | H | F | I | T | M | A | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| potato1  | D | A | S | P | V | V | D | A | G | I | A | L | H | K | M | I | H | F | I | T | M | A | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| human    | P | F | T | P | V | I | D | R | G | I | A | L | H | K | M | I | R | L | I | T | H | G | L | G | G | E | G | Y | L | N | F | M | G | N |   |   |
| Majority | F | S | L | G | D | A | D | H | L | R | Y | K | G | M | N | A | F | D | Q | A | M | N | A | L | E | E | K | F | S | F | L | A | S | S |   |   |
| maize 2  | F | D | L | G | D | A | D | Y | L | R | Y | H | G | M | Q | E | F | D | Q | A | M | Q | H | L | E | Q | K | Y | E | G | F | M | T | S | E |   |
| pea 1    | F | D | L | G | D | A | D | Y | L | R | Y | H | G | M | Q | E | F | D | R | A | M | Q | H | L | E | E | T | Y | E | G | F | M | T | S | E |   |
| maize 1  | W | S | L | V | D | T | D | H | L | R | Y | K | Y | M | N | A | F | D | Q | A | M | N | A | L | E | E | R | F | S | F | L | S | S | S |   |   |
| rice 1   | W | S | L | V | D | T | D | H | L | R | Y | K | Y | M | N | A | F | D | Q | A | M | N | A | L | E | E | R | F | S | F | L | S | S | S |   |   |
| potato1  | W | N | L | A | D | S | E | H | L | R | Y | K | F | M | N | A | F | D | R | A | M | N | S | L | E | E | K | F | S | F | L | A | S | G |   |   |
| human    | F | H | L | T | D | D | L | L | R | Y | K | F | L | N | N | A | F | D | R | D | M | N | R | L | E | E | R | Y | G | W | L | A | A | P |   |   |
| Majority | K | V | G | C | D | L | P | G | K | Y | K | V | A | L | D | S | D | A | L | V | F | G | G | H | G | R | V | G | H | D | V | D | H | F |   |   |
| maize 2  | R | I | G | C | R | K | P | G | K | V | Y | K | V | V | L | D | S | D | A | G | L | F | G | G | F | S | R | I | H | A | A | E | H | F |   |   |
| pea 1    | K | V | G | C | L | K | P | G | K | I | V | K | I | V | L | D | S | D | A | D | T | L | F | G | G | F | R | L | N | H | A | A | E | Y | F |   |
| maize 1  | K | V | G | C | D | L | P | G | K | Y | R | V | A | L | D | S | D | A | L | V | F | F | G | G | H | G | R | V | G | H | D | V | D | H | F |   |
| rice 1   | K | V | G | C | D | L | P | G | K | Y | R | V | A | L | D | S | D | A | L | V | F | F | G | G | H | G | R | V | G | H | D | V | D | H | F |   |
| potato1  | K | V | G | C | D | L | P | G | K | Y | R | V | A | L | D | S | D | A | L | W | E | F | F | G | G | H | G | R | A | G | H | D | V | D | H | F |
| human    | R | V | G | T | A | L | P | G | K | F | K | I | V | L | D | S | D | A | A | E | Y | G | G | H | Q | R | L | D | H | S | T | D | F | F |   |   |

Fig. 4a SHEET 1

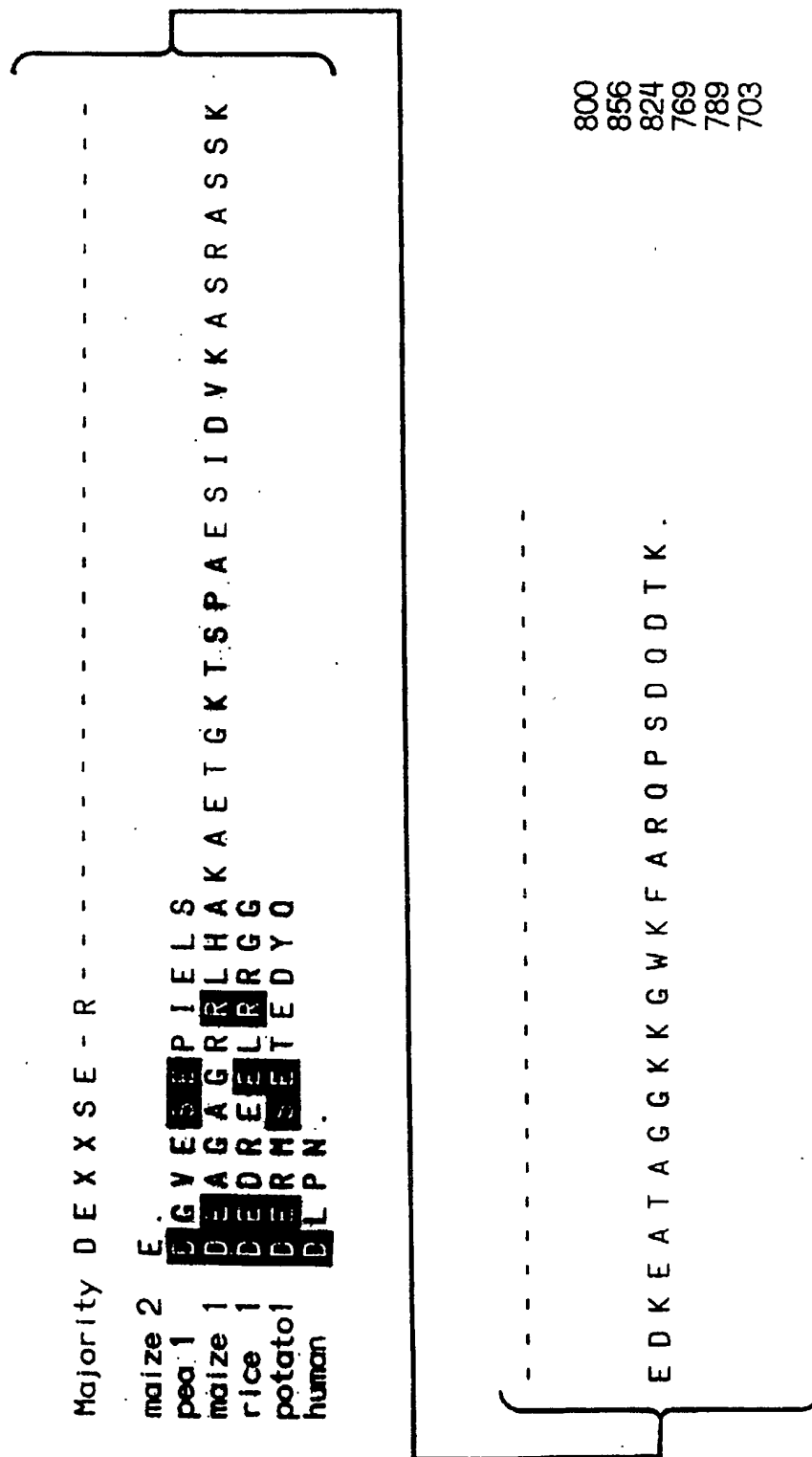
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Fig. 4a SHEET 2



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Fig. 4a SHEET 3



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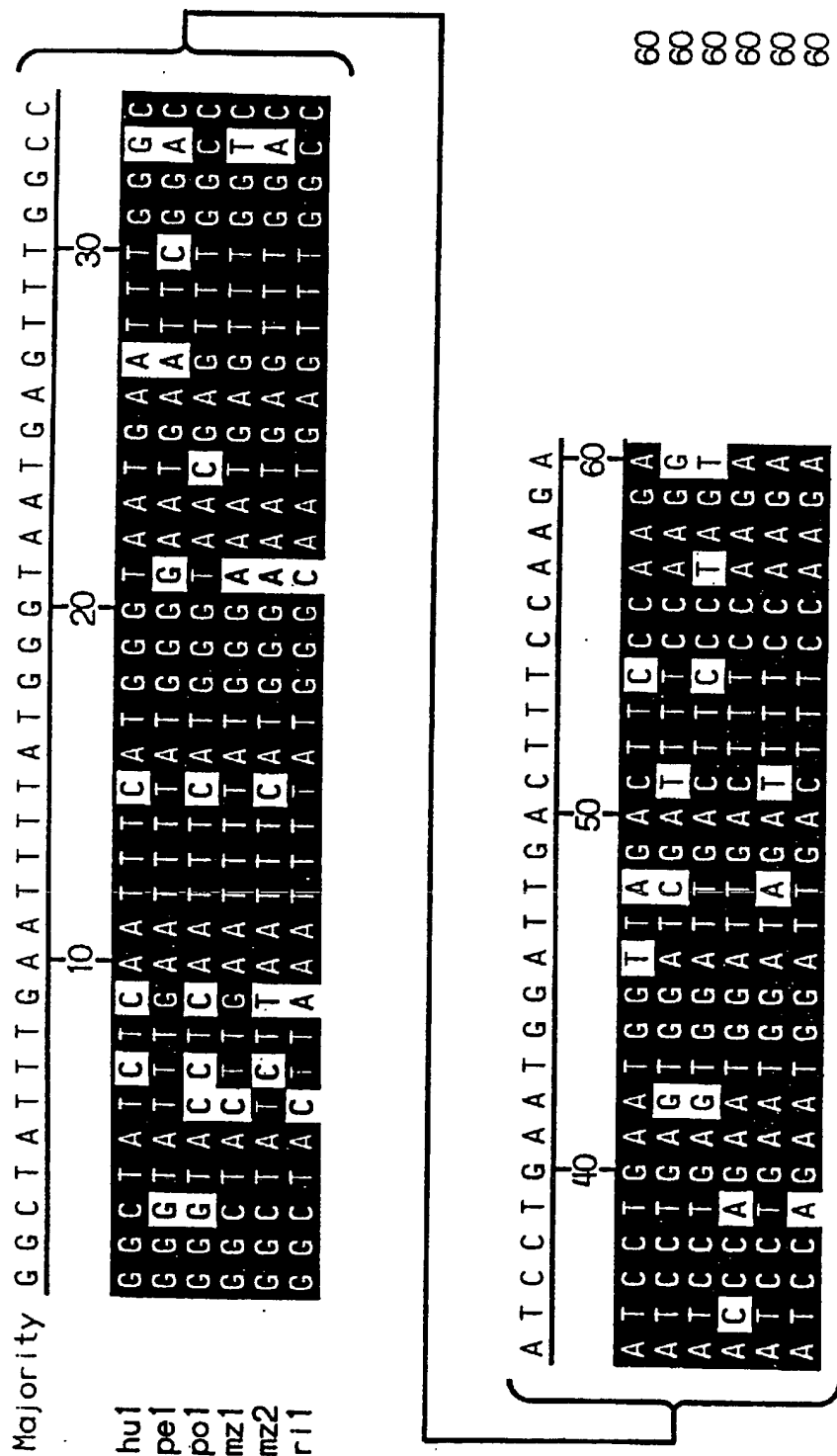


Fig. 4b

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TTGATGGGGCCTTGAACCTCAGCAATTTGACACTCAGTTAGTTACA  
AACTACCCCGGAACCTTGAGTCGTTAAACTGTGAGTCAATCAATGT

AAGGAATGAATAAAAGGATAGATTTGTAAAAACCCTAAGGAGAGA  
TTCCTTACTTATTTTCCTATCTAAACATTTTGGGATTCCTCTCT  
M N K R I D L

GTTCCATCAGTGTACAAATCTAATGGATTTCAGCAGTAATGGTGAT  
CAAGGTAGTCACATGTTTAGATTACCTAAGTCGTCATTACCACTA  
V P S V Y K S N G F S S N G D

Bgl II

EcoRI

TCACGGAAGATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATTC  
AGTGCCTTCTAGAACCGACTTTTCAGAAGAATGTTAAGGCTTAAG  
S R K I L A E K S S Y N S E F

ACCCAGAGTGATAGCTCCTCATCCTCAACAGACCAATTTGAGTTC  
TGGGTCTCACTATCGAGGAGTAGGAGTTGTCTGGTTAAACTCAAG  
T Q S D S S S S S T D Q F E F

AGTTCAACAATGGAACACGCTAGCCAGATTAAACTGAGAACGAT  
TCAAGTTGTTACCTTGTGCGATCGGTCTAATTTTGACTCTTGCTA  
S S T M E H A S Q I K T E N D

GATTTTGCTTCATCACTACAACCTACAAGAAGGTGGTAAACTGGAG  
CTAAAACGAAGTAGTGATGTTGATGTTCTTCCACCATTTGACCTC  
D F A S S L Q L Q E G G K L E

Fig 5  
Sheet 2

Fig. 5 SHEET 1

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Bgl II

CTCCTATCACTTATCAGATCTCTATTTTTTCTCTTAATTCCAACC 90  
GAGGATAGTGAATAGTCTAGAGATAAAAAAGAGAATTAAGGTTGG

AGAAGAAAGATGGTGTATACACTCTCTGGAGTTCGTTTTCTACT 180  
TCTTCTTTCTACCACATATGTGAGAGACCTCAAGCAAAGGATGA  
M V Y T L S G V R F P T

CGGAGGAATGCTAATGTTTCTGTATTCTTGAAAAAGCACTCTCTT 270  
GCCTCCTTACGATTACAAAGACATAAGAACTTTTTCTGTGAGAGAA  
R R N A N V S V F L K K H S L

CGACCTTCTACAGTTGCAGCATCGGGGAAAGTCCTTGTGCCTGGA 360  
GCTGGAAGATGTCAACGTCGTAGCCCCTTTCAGGAACACGGACCT  
R P S T V A A S G K V L V P G

ACTGAGACATCTCCAGAAAATTCCCCAGCATCAACTGATGTAGAT 450  
TGACTCTGTAGAGGTCTTTTAAGGGGTCGTAGTTGACTACATCTA  
T E T S P E N S P A S T D V D

GACGTTGAGCCGTCAAGTGATCTTACAGGAAGTGTGGAAGAGCTG 540  
CTGCAACTCGGCAGTTCCTAGAAATGTCCTTCACAACTTCTCGAC  
D V E P S S D L T G S V E E L

GAGTCTAAACATTAAATACTTCTGAAGAGACAATTATTGATGAA 630  
CTCAGATTTTGTAAATTTATGAAGACTTCTCTGTTAATAACTACTT  
E S K T L N T S E E T I I D E

Fig 5 SHEET 2

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TCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCTGGACTTGGT  
AGACTATCCTAGTCTCTCTCCCCGTAGGGAGGTGGACCTGAACCA  
S D R I R E R G I P P P G L G

CACCTTGATTACAGGTATTACAGTACAAGAACTGAGGGAGGCA  
GTGGAACATAATGTCCATAAGTGTTCATGTTCTTTGACTCCCTCCGT  
H L D Y R Y S O Y K K L R E A

GAAAAAATGGGTTTCACTCGTAGTGCTACAGGTATCACTTACCGT  
CTTTTTTACCCAAAGTGAGCATCACGATGTCCATAGTGAATGGCA  
E K M G F T R S A T G I T Y R

AACAATTGGGACGCAAATGCTGACATTATGACTCGGAATGAATTT  
TTGTTAACCCTGCGTTTACGACTGTAATACTGAGCCTTACTTAA  
N N W D A N A D I M T R N E F

GCAATTCCTCATGGGTCCAGAGTGAAGATACGTATGGACACTCCA  
CGTTAAGGAGTACCCAGGTCTCACTTCTATGCATACCTGTGAGGT  
A I P H G S R V K I R M D T P

Fig.5  
Sheet4

Fig. 5 SHEET 3

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Hinc II

CAGAAGATTTATGAAATAGACCCCTTTTGACAACTATCGTCAA  
GTCTTCTAAATACTTTATCTGGGGGAAACTGTTTGATAGCAGTT 720  
Q K I Y E I D P L L T N Y R Q

ATTGACAAGTATGAGGGTGGTTTGAAGCCTTTTCTCGTGGTTAT  
TAACTGTTCACTACTCCACCAAACCTTCGGAAAAGAGCACCAATA 810  
I D K Y E G G L E A F S R G Y

Pvu II

GAGTGGGCTCTTGGTGCCAGTCAGCTGCCCTCATTGGAGATTTTC  
CTCACCCGAGAACCACGGGTCAGTCGACGGGAGTAACCTCTAAAG 900  
E W A L G A O S A A L I G D F

GGTGTCTGGGAGATTTTTCTGCCAAATAATGTGGATGGTTCTCCT  
CCACAGACCCTCTAAAAAGACGGTTTATTACACCTACCAAGAGGA 990  
G V W E I F L P N N V D G S P

TCAGGTGTTAAGGATTCCATTCTGCTTGGATCAACTACTCTTTA  
AGTCCACAATTCCTAAGGTAAGGACGAACCTAGTTGATGAGAAAT 1080  
S G V K D S I P A W I N Y S L

Fig. 5 SHEET 4



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CAGCTTCCTGATGAAATTCCATATAATGGAATACATTATGATCCA  
GTCGAAGGACTACTTTAAGGTATATTACCTTATGTAATACTAGGT  
Q L P D E I P Y N G I H Y D P

CCAAAGTCGCTGAGAATATATGAATCTCATATTGGAATGAGTAGT  
GGTTTCAGCGACTCTTATATACTTAGAGTATAACCTTACTCATCA  
P K S L R I Y E S H I G M S S

Hind III

CTTCCTCGCATAAAAAAGCTTGGGTACAATGCGCTGCAAATTATG  
GAAGGAGCGTATTTTTTTCGAACCCATGTTACGCGACGTTTAATAC  
L P R I K K L G Y N A L Q I M

ACAAATTTTTTTTGCACCAAGCAGCCGTTTTTGAACGCCCGACGAC  
TGTTTAAAAAACGTGGTTCGTCGGCAAAACCTTGCGGGCTGCTG  
T N F F A P S S R F G T P D D

CTCATGGACATTGTTTACAGCCATGCATCAAATAATACTTTAGAT  
GAGTACCTGTAACAAGTGTCGGTACGTAGTTTATTATGAAATCTA  
L M D I V H S H A S N N T L D

Fig.5  
Sheet  
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Fig.5 SHEET 5

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CCCGAAGAGGAGAGGTATATCTTCCAACACCCACGGCCAAAGAAA 1170  
GGGCTTCTCCTCTCCATATAGAAGGTTGTGGGTGCCGGTTTCTTT  
P E E E R Y I F Q H P R P K K

Xmn I  
CCGGAGCCTAAAATTAACATACGTGAATTTTAGAGATGAAGTT 1260  
GGCCTCGGATTTTAATTGAGTATGCACTTAAATCTCTACTTCAA  
P E P K I N S Y V N F R D E V

GCTATTCAAGAGCATTCTTATTACGCTAGTTTTGGTTATCATGTC 1350  
CGATAAGTTCTCGTAAGAATAATGCGATCAAAACCAATAGTACAG  
A I Q E H S Y Y A S F G Y H V

CTTAAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTGTTGTT 1440  
GAATTCAGAACTAACTATTTTCGAGTACTCGATCCTTAACAACAA  
L K S L I D K A H E L G I V V

GGACTGAACATGTTTGACTGCACCGATAGTTGTTACTTTCACTCT 1530  
CCTGACTTGTACAACTGACGTGGCTATCAACAATGAAAGTGAGA  
G L N M F D C T D S C Y F H S

Fig. 5 SHEET 6

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Sac I

GGAGCTCGTGGTTATCATTGGATGTGGGATTCCCGCCTCTTTAAC  
CCTCGAGCACCAATAGTAACCTACACCCTAAGGGCGGAGAAATTG  
G A R G Y H W M W D S R L F N

TGGTGGTTGGATGCGTTCAAATTTGATGGATTTAGATTTGATGGT  
ACCACCAACCTACGCAAGTTTAACTACCTAAATCTAACTACCA  
W W L D A F K F D G F R F D G

ACTGGGAACTACGAGGAATACTTTGGACTCGCAACTGATGTGGAT  
TGACCCTTGATGCTCCTTATGAAACCTGAGCGTTGACTACACCTA  
T G N Y E E Y F G L A T D V D

TTCCCAGATGCAATTACCATTGGTGAAGATGTTAGCGGAATGCCG  
AAGGGTCTACGTTAATGGTAACCACTTCTACAATCGCCTTACGGC  
F P D A I T I G E D V S G M P

CGGCTGCATATGGCAATTGCTGATAAACGGATTGAGTTGCTCAAG  
GCCGACGTATACCGTTAACGACTATTTGCCTAACTCAACGAGTTC  
R L H M A I A D K R I E L L K

ACAAATAGAAGATGGTCGGAAAAGTGTGTTTCATACGCTGAAAGT  
TGTTTATCTTCTACCAGCCTTTTCACACAAAGTATGCGACTTTCA  
T N R R W S E K C V S Y A E S

Fig 5  
Sheet 8

Fig. 5 SHEET 7

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TATGGAACTGGGAGGTACTTAGGTATCTTCTCTCAAATGCGAGA 1620  
ATACCTTTGACCCTCCATGAATCCATAGAAGAGAGTTTACGCTCT  
Y G N W E V L R Y L L S N A R

GTGACATCAATGATGTATATTCACCACGGATTATCGGTGGGATTC 1710  
CACTGTAGTTACTACATATAAGTGGTGCCTAATAGCCACCCTAAG  
V T S M M Y I H H G L S V G F

Hinc II

GCTGTTGTGTATCTGATGCTGGTCAACGATCTTATTCATGGGCTT 1800  
CGACAACACATAGACTACGACCAGTTGCTAGAATAAGTACCCGAA  
A V V Y L M L V N D L I H G L

ACATTTTGTATTCCCGTCCAAGAGGGGGGTGTTGGCTTTGACTAT 1890  
TGTA AACATAAGGGCAGGTTCTCCCCCACAACCGAAACTGATA  
T F C I P V Q E G G V G F D Y

AAACGGGATGAGGATTGGAGAGTGGGTGATATTGTTTCATACACTG 1980  
TTTGCCCTACTCCTAACCTCTCACCCTATAACAAGTATGTGAC  
K R D E D W R V G D I V H T L

CATGATCAAGCTCTAGTCGGTGATAAACTATAGCATTCTGGCTG 2070  
GTACTAGTTTCGAGATCAGCCACTATTTTGATATCGTAAGACCGAC  
H D Q A L V G D K T I A F W L

Fig. 5 SHEET 8

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Hinc II

ATGGACAAGGATATGTATGATTTTATGGCTCTGGATAGACCGTCA  
TACCTGTTCCCTATACATACTAAAATACCGAGACCTATCTGGCAGT  
M D K D M Y D F M A L D R P S

Asp 718  
Kpn I

CTTGTAACCTATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG  
GAACATTGATACCCTAATCCTCCTCTTCCCATGGATTTAAAGTAC  
L V T M G L G G E G Y L N F M

GAACAACACCTCTCTGATGGCTCAGTAATCCCCGGAACCAATTC  
CTTGTTGTGGAGAGACTACCGAGTCATTAGGGGCCTTTGGTTAAG  
E Q H L S D G S V I P G N Q F

Fig.5  
Sheet 10

Ssp I

TATTTAAGATACCGTGCGTTGCAAGAATTTGACCGGCCTATGCAG  
ATAAATTCTATGGCACCCAACGTTCTTAAACTGGCCGGATACGTC  
Y L R Y R G L Q E F D R P M Q

ATATCACGAAAGGATGAAGGAGATAGGATGATTGTATTTGAAAAA  
TATAGTGCTTTCCTACTTCTCTATCCTACTAACATAAACTTTTT  
I S R K D E G D R M I V F E K

TCAGACTATCGCATAGCCTGCCTGAAGCCTGGAAAATACAAGGTT  
AGTCTGATAGCGTATCGGACGGACTTCGGACCTTTTATGTTCCAA  
S D Y R I A C L K P G K Y K V

Fig.5 SHEET 9

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ACATCATTAAATAGATCGTGGGATAGCATTGCACAAGATGATTAGG 2160  
TGTAAGTAATTATCTAGCACCCCTATCGTAACGTGTTCTACTAATCC  
T S L I D R G I A L H K M I R

EcoR I

GGAAATGAATTCGGCCACCCTGAGTGGATTGATTTCCCTAGGGCT 2250  
CCTTTACTTAAGCCGGTGGGACTCACCTAACTAAAGGGATCCCGA  
G N E F G H P E W I D F P R A

AGTTATGATAAATGCAGACGGAGATTTGACCTGGGAGATGCAGAA 2340  
TCAATACTATTTACGTCTGCCTCTAACTGGACCCTCTACGTCTT  
S Y D K C R R R F D L G D A E

TATCTTGAAGATAAATATGAGTTTATGACTTCAGAACACCAGTTC 2430  
ATAGAACTTCTATTTATACTCAAATACTGAAGTCTTGTGGTCAAG  
Y L E D K Y E F M T S E H Q F

GGAAACCTAGTTTTTGTCTTTAATTTTCACTGGACAAAAAGCTAT 2520  
CCTTTGGATCAAAAACAGAAATTAAGTGACCTGTTTTTCGATA  
G N L V F V F N F H W T K S Y

GCCTTGGACTCAGATGATCCACTTTTTGGTGGCTTCGGGAGAATT 2610  
CGGAACCTGAGTCTACTAGGTGAAAAACCACCGAAGCCCTCTTAA  
A L D S D D P L F G G F G R I

Fig. 5 SHEET 10

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Ssp I

GATCATAATGCCGAATATTTACCTTTGAAGGATGGTATGATGAT  
CTAGTATTACGGCTTATAAAGTGGAAACTTCCTACCATACTACTA  
D H N A E Y F T F E G W Y D D

GTCTATGCACTAGTAGACAAAGAAGAAGAAGAAGAAGAAGAA  
CAGATACGTGATCATCTGTTTCTTCTTCTTCTTCTTCTTCTTCTT  
V Y A L V D K E E E E E E E E

TGAACGAACTTGTGATCGCGTTGAAAGATTTGAACGCTACATAGA  
ACTTGCTTGAACACTAGCGCAACTTTCTAACTTGCGATGTATCT

Fig 5  
Sheet  
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TCATGTGACACAAGGTTTGCAATTCTTTCCACTATTAGTAGTGCA  
AGTACACTGTGTTCCAAACGTTAAGAAAGGTGATAATCATCACGT

EcoR I

Pst I

GATGAATTTATGTCGAATGCTGGGACGATCGAATTCCTGCAGGCC  
CTACTTAAATACAGCTTACGACCCTGCTAGCTTAAGGACGTCCGG

Fig. 5 SHEET 11

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CGTCCTCGTTCAATTATGGTGTATGCACCTTGTA AACAGCAGTG 2700  
GCAGGAGCAAGTTAATACCACATACGTGGAACATTTTGTGTCGCAC  
R P R S I M V Y A P C K T A V

GAAGAAGAAGTAGCAGCAGTAGAAGAAGTAGTAGTAGAAGAAGAA 2790  
CTTCTTCTTCATCGTCGTCATCTTCTTCATCATCATCTTCTTCTT  
E E E V A A V E E V V V E E E

Ssp I

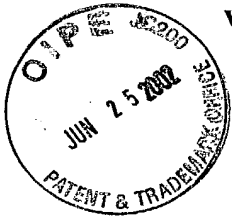
GCTTCTTGACGTATCTGGCAATATTGCATCAGTCTTGGCGGAATT 2880  
CGAAGAACTGCATAGACCGTTATAACGTAGTCAGAACCGCCTTAA

Cla I

ACGATATACGCAGAGATGAAGTGCTGAACAAACATATGTAAAATC 2970  
TGCTATATGCGTCTCTACTTCACGACTTGTTTGTATACATTTTAG

GGGGGACCCCTTAGTTCT 3033  
CCCCCTGGGGAATCAAGA

Fig. 5 SHEET 12



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✓180      ✓190      ✓200      ✓210      ✓220  
IYEIDPLL TN YRQHL DY RYSQYKKL REAIDKYEGGLEAF SRGYEKM GFTR  
: : : DP L. Y : H: . R : : Y . : I: KYEG LE. F: : GY K. GF. R  
LLNL DPTLEPYLDHFRHRMKRYVDQKMLIEKYEGPLEEFAQGYLKFGFNR  
^100      ^110      ^120      ^130      ^140  
✓230      ✓240      ✓250      ✓260      ✓270  
SATGIT YREWALGAQSAALIGDFNWDANADIMTRNEFGVWEIFLPNNVD  
... I. YREWA : AQ. A. : IGDFN. W: : : : : M. : : : FGVW. I : P: VD  
EDGC IYREWAPAAQEA EVIGDFNGWNGSNHMMEKDQFGVWSIRIPD-VD  
^150      ^160      ^170      ^180      ^190  
✓280      ✓290      ✓300      ✓310      ✓320  
GSPAIPHGSRVKIRMDTPSGV-KDSIPAWINYSLQLPDEI--PYNGIHYD  
: . P. IPH. SRVK: R. : : GV D. IPAWI: Y: . : : : PY: G: . D  
SKPVIPHNSRVKFRFKHNGVWVDRIPAWIKYATADATKFAAPYDGVYWD  
^200      ^210      ^220      ^230      ^240  
✓330      ✓340      ✓350      ✓360      ✓370  
PPEEERYIFQHPRPKPKSLRIYESHIGMSSPEPKINSYVNF RDEVLPRI  
PP . ERY F: . PRP KP: : RIYE: H: GMSS: EP: : NSY : F D: VLPRI  
PPPSERYHFKYPRPPKPRAPRIYEAHVGMSSSEPRVNSYREFADDVLPRI  
^250      ^260      ^270      ^280      ^290  
✓380      ✓390      ✓400      ✓410      ✓420  
KKLGYNALQIMAIQEHSYYASF GYHVTNFFAPSSRFGTPDDLKSLIDKAH  
K . YN: : Q: MAI EHSYY: SFGYHVTNFFA S: R: G. P: DLK LIDKAH  
KANNYNTVOLMAIMEHSYYGSFGYHVTNFFAVSNRYGNPEDLKYLIDKAH  
^300      ^310      ^320      ^330      ^340  
✓430      ✓440      ✓450      ✓460      ✓470  
ELGIVVLMDIVHSHASNNTLDGLNMFDC---TDSCYFHSGARGYHWMWDS  
. LG: VL: D: VHSHASN. DGLN FD : : : YFH: G. RGYH : WDS  
SLGLQVLVDVVHSHASNNTDGLNGFDIGQGSQESYFHAGERGYHKLWDS  
^350      ^360      ^370      ^380      ^390  
✓480      ✓490      ✓500      ✓510      ✓520  
RLFNYGNWEVLR YLLSNARWWLDAFKFDGFRFDGVTSMYIHHGLSVGFT  
RLFNY: NWEVLR: LLSN RWWL: : : FDGFRFDG: TSM: Y: HHG: : : GFT  
RLFNYANWEVLRFLLSNLRWLLEEYNFDGFRFDGITSMLYVHHGINMGFT  
^400      ^410      ^420      ^430      ^440  
✓530      ✓540      ✓550      ✓560      ✓570  
GNYEEYFGLATD VDAVVYLM LVNDLIHGLFPDAITIGEDVSGMPTFCIPV  
GNY: EYF: ATD VDAVVYLM. N: LIH : FPDA. . I: EDVSGMP. : . PV  
GNYNEYFSEATD VDAVVYLM LANNLIHKIFPDATVIAEDVSGMPGLSRPV  
^450      ^460      ^470      ^480      ^490  
✓580      ✓590      ✓600      ✓610      ✓620  
QEGGVGFDYRLHMAIADKRIELK-KRDEDWRVGDIVHTLTNRRWSEKCV  
EGG: GFDYRL MAI: DK: I: LK K. DEDW. : : : : LTNRR. : EKC:  
SEGGIGFDYRLAMAI PDKWIDYLNKNDEDSMKEVTSSLTNRRYTEKCI  
^500      ^510      ^520      ^530      ^540

Fig. 6 SHEET 1

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✓630      ✓640      ✓650      ✓660      ✓670  
 SYAESHDOALVGDKTIAFWLMDKDMYDFMALDRPSTSLIDRGIALHKMIR  
 : YAESHDO: : VGDKTIAF LMDK: MY. M: : : : : DRGIALHKMI:  
 AYAESHDOQSI VGDKTIAFL LMDKEMYSGMSCLTDASPVVDRGIALHKMIH  
 ^550      ^560      ^570      ^580      ^590  
 ✓680      ✓690      ✓700      ✓710      ✓720  
 LVTMGLGGEGYLNFMGNEFGHPEWIDFPRAEQHLSGGSVIPGNQFSYDKC  
 : TM: LGGEGYLNFMGNEFGHPEWIDFPR      GN: . SYDKC  
 FFTMALGGEGYLNFMGNEFGHPEWIDFPR-----EGNNWSYDKC  
 ^600      ^610      ^620      ^630  
 ✓730      ✓740      ✓750      ✓760      ✓770  
 RRRFDLGDAEYLRYRGLQEFDRPMQYLEDKYEFMTSEHQFISRKDEGDRM  
 RR: . : L: D: E. LRY: . : . FDR: M: L: : K: . F: : S: . Q: : S: . D: : : : :  
 RRQWNLADSEHLRYKFMNAFDRAMNSLDEKFSFLASGKQIVSSMDDDNKV  
 ^640      ^650      ^660      ^670      ^680  
 ✓780      ✓790      ✓800      ✓810      ✓820  
 IVFEKGNLVFVFNFWHTKSYSYRIACLPKPKYKVALDSDDDLFGGFGRI  
 : VFE: G: LVFVFNFH . : : Y: : Y: : : C PGKY: VAL: SD. FGG GR  
 VVFERGDLVFNFNHPNNTYEGYKVGCDLPGKYRVALGSDAWFEGGHGRA  
 ^690      ^700      ^710      ^720      ^730  
 ✓830      ✓840      ✓850      ✓860  
 DHNAEYFT-----FEGWYDDRPRSIMVYAPCKTAVVYALVDKEEEEE  
 : H: . : . FT      E. : : : RP. S: . V : P : T V. Y VD. . E.  
 GHDVDHFTSPEGIPGVPETNFNGRPNSFKVLSPARTCVAYYRVDERMSET  
 ^740      ^750      ^760      ^770      ^780  
 ✓870  
 EEEEEEV  
 E: . : : :  
 EDYQTDI  
 ^790

Fig. 6 SHEET 2



10 20 30 40  
 M V Y T L S G V R F P T V P S V Y K S N G F S S N G D R R N A N V S V F L K K H -- S L S R K I L A  
 M V Y T : S G : R F P . : P S : . K S : . . D R R . : : S F L K : : S : S R . L  
 M V Y T I S G I R F P V L P S L H K S --- T L R C D R R A S S H S F F L K N N S S S F S R T S L Y  
 10 20 30 40  
 50 60 70 80 90  
 E K S S Y N S E F R P S T V A A S G K V L V P G T Q S D S S S S T D Q F E T T E T S P E N S P A S  
 . K S : S E : : S T : A . S : K V L : P . . Q D : S S : D Q : E . . . : E : . .  
 A K F S R D S E T K S S T I A E S D K V L I P E D Q - D N S V S L A D Q L E N P D I T S E D A Q N L  
 50 60 70 80 90  
 100 110 120 130 140  
 T D V D S S T M E H A S Q I K T E N D D V E P S S D L T G S V E E L D F A S S L Q L Q E G G K L E E  
 . D : T M . : : : . : . : . : . : . : . : . : . : . : . : . : . : S : : : : : :  
 E D L -- T M K D G N K Y N I D - E S T S S Y R E V G D E K G S V T S S S L V D V N T D T Q -- A  
 100 110 120 130 140  
 150 160 170 180 190  
 S K T L N T S E E T I I D E S D R I R E R G I P P P G L G Q K I Y E I D P L L T N Y R Q H L D Y R Y  
 . K T S : . . : . : : I I P P P G G Q K I Y E I D P L L . . R Q H L D : R Y  
 K K T S V H S D K K V K V D K P K I - - - I P P P G S G Q K I Y E I D P L L Q A H R Q H L D F R Y  
 150 160 170 180  
 200 210 220 230 240  
 S Q Y K K L R E A I D K Y E G G L E A F S R G Y E K M G F T R S A T G I T Y R E W A L G A Q S A A L  
 : Q Y K : : R E . I D K Y E G G L : A F S R G Y E K . G F T R S A T G I T Y R E W : G A : S A A L  
 G O Y K R I R E E I D K Y E G G L D A F S R G Y E K F G F T R S A T G I T Y R E W G P G A K S A A L  
 190 200 210 220 230  
 250 260 270 280 290  
 I G D F N N W D A N A D I M T R N E F G V W E I F L P N N V D G S P A I P H G S R V K I R M D T P S  
 : G D F N N W : : N A D : M T : : . F G V W E I F L P N N . D G S P : I P H G S R V K I : M D T P S  
 V G D F N N W N P N A D V M T K D A F G V W E I F L P N N A D G S P P I P H G S R V K I H M D T P S  
 240 250 260 270 280  
 300 310 320 330 340  
 G V K D S I P A W I N Y S L Q L P D E I P Y N G I H Y D P P E E E R Y I F Q H P R P K K P K S L R I  
 G : K D S I P A W I : : S : Q P : E I P Y N G I . Y D P P E E E : Y : F : H P : P K : P : S : R I  
 G I K D S I P A W I K F S V Q A P G E I P Y N G I Y Y D P P E E E K Y V F K H P Q P K R P Q S I R I  
 290 300 310 320 330  
 350 360 370 380 390  
 Y E S H I G M S S P E P K I N S Y V N F R D E V L P R I K K L G Y N A L Q I M A I Q E H S Y Y A S F  
 Y E S H I G M S S P E P K I N : Y . N F R D : V L P R I K K L G Y N A : Q I M A I Q E H S Y Y A S F  
 Y E S H I G M S S P E P K I N T Y A N F R D D V L P R I K K L G Y N A V Q I M A I Q E H S Y Y A S F  
 340 350 360 370 380  
 400 410 420 430 440  
 G Y H V T N F F A P S S R F G T P D D L K S L I D K A H E L G I V V L M D I V H S H A S N N T L D G  
 G Y H V T N F F A P S S R F G T P : D L K S L I D : A H E L G : : V L M D I V H S H : S N N T L D G  
 G Y H V T N F F A P S S R F G T P E D L K S L I D R A H E L G L L V L M D I V H S H S S N N T L D G  
 390 400 410 420 430

Fig. 7 SHEET 1

**SUBSTITUTE SHEET (RULE 26)**

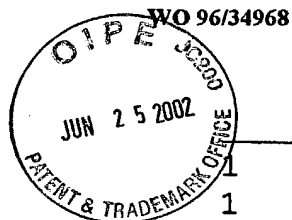
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 ↙500 ↙510 ↙520 ↙530 ↙540  
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 KFDGFRFDGVTSMY. HHGL V: FTGNY. EYFGLATDV: AVVY: MLVNDL  
 KFDGFRFDGVTSMYTHHGLQVSFTGNYYEYFGLATDVEAVVYMLVNDL  
 ↗490 ↗500 ↗510 ↗520 ↗530  
 ↙550 ↙560 ↙570 ↙580 ↙590  
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 IHGLFPEAVSIGEDVSGMPTFCLPTQDGGIGFNRYRLHMAVADKWIELLKK  
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 ↙600 ↙610 ↙620 ↙630 ↙640  
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 ↙650 ↙660 ↙670 ↙680 ↙690  
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 FPR: EQHL: : G. : : PGN: SYDKCRRRFDLGD: YLRY: G: QEFDR: MQ.  
 FPRGEQHLPNGKIVPGNNNSYDKCRRRFDLGDADYLR YHGMQEFDRAMQH  
 ↗690 ↗700 ↗710 ↗720 ↗730  
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 RTAVVYALADGVESEPIELSDGVES  
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Fig. 7 SHEET 2

SUBSTITUTE SHEET (RULE 26)



WO 96/34968

PCT/GB96/01075

24 / 75

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1 -----TTGA-----  
1 -----GA-----  
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73 TTTCTCTTAATTCCAACCAAGG-AATGAATAAAAGGAT-A  
71 TTTCTCTTAATTCCAACCAAGG-AATGAATAAAA**A**GAT-A  
165 TTTCTCTTAATTCCAACCAAGG-AATGAAT**IAAA**A**GA**T**IA**  
  
191 TGTACAAATCTAATGGATTCAGCAGTAATGGTGATCGGAG  
191 TGTACAAATCTAATGGATTCAGCAGTAATGGTGATCGGAG  
189 TGTACAAATCTAATGGATTCAGCAGTAATGGTGATCGGAG  
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311 AATCCGACCTTCTACAGTTGCAGCATCGGGGAAAGTCCT  
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394 AAT**C**CCGACCTTCTACAGTTGCAGCATCGGGGAAAGTCCT  
  
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Fig.8  
Sheet 2

Fig.8 SHEET 1

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Fig. 8  
Sheet  
3

Fig. 8 SHEET 2

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PCT/GB96/01075

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Fig. 8  
SHEET 3

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Fig. 8  
Sheet 5

Fig. 8  
SHEET 4

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Fig. 8  
Sheet 6

Fig. 8  
SHEET 5

SUBSTITUTE SHEET (RULE 26)



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ACTTTAGATGGACTGAACATGTTTGACGGCACA psbe2con.seq

AGGTATCTTCTCTCAAATGCGAGATGGTGGTTG 11con.seq  
AGGTATCTTCTCTCAAATGCGAGATGGTGGTTG 19con.seq  
AGGTATCTTCTCTCAAATGCGAGATGGTGGTTG 10con.seq  
AGGTATCTTCTCTCAAATGCGAGATGGTGGTTG psbe2con.seq

AACTACGAGGAATACTTTGGACTCGCAACTGAT 11con.seq  
AACTACGAGGAATACTTTGGACTCGCAACTGAT 19con.seq  
AACTACGAGGAATACTTTGGACTCGCAACTGAT 10con.seq  
AACTACGAGGAATACTTTGGACTCGCAACTGAT psbe2con.seq

GGAATGCCGACATTTTGTATTCCCGTTCAAGAT 11con.seq  
GGAATGCCGACATTTTGTATTCCCGTCAAGAG 19con.seq  
GGAATGCCGACATTTTGTATTCCCGTTCAAGAT 10con.seq  
GGAATGCCGACATTTTGTATTCCCGTTCAAGAT psbe2con.seq

Fig. 8  
SHEET 6

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1868 GGGGGTGTGGCTTTGACTATCGGCTGCATATGGCAATTGC  
1870 GGGGGTGTGGCTTTGACTATCGGCTGCATATGGCAATTGC  
1869 GGGGGTGTGGCTTTGACTATCGGCTGCATATGGCAATTGC  
1953 GGGGGTGTGGCTTTGACTATCGGCTGCATATGGCAATTGC

1988 AGATGGTCGGAAAAGTGTGTTTCATACGCTGAAAGTCATGA  
1990 AGATGGTCGGAAAAGTGTGTTTCATACGCTGAAAGTCATGA  
1989 AGATGGTCGGAAAAGTGTGTTTCATACGCTGAAAGTCATGA  
2073 AGATGGTCGGAAAAGTGTGTTTCATACGCTGAAAGTCATGA

2108 CCGCAACATCATTAAATAGATCGTGGGATAGCATTGCACAA  
2110 CCGTCAACATCATTAAATAGATCGTGGGATAGCATTGCACAA  
2109 CCGTCAACATCATTAAATAGATCGTGGGATAGCATTGCACAA  
2193 CCGTCAACATCATTAAATAGATCGTGGGATAGCATTGCACAA

2228 TGGATTGATTTCCCTAGGGCTGACCCACACCTTTCTGATGG  
2230 TGGATTGATTTCCCTAGGGCTGAACAACACCTCTCTGATGG  
2229 TGGATTGATTTCCCTAGGGCTGAACAACACCTCTCTGATGG  
2313 TGGATTGATTTCCCTAGGGCTGAACAACACCTCTCTGATGG

2348 TACCATGGGTTCAAGAATTTGACCTGGGCTATGCAGTATCT  
2350 TACCGTGGGTTGCAAGAATTTGACCGGCTATGCAGTATCT  
2349 TACCGTGGGTTGCAAGAATTTGACCGGGCTATGCAGTATCT  
2433 TACCGTGGGTTGCAAGAATTTGACCGGGCTATGCAGTATCT

2468 GAAAGAGGAAACCTAGTTTTGTCTTTAATTTTCACTGGAC  
2470 GAAAAAGGAAACCTAGTTTTGTCTTTAATTTTCACTGGAC  
2469 GAAAAAGGAAACCTAGTTTTGTCTTTAATTTTCACTGGAC  
2553 GAAAAAGGAAACCTAGTTTTGTCTTTAATTTTCACTGGAC

2588 TTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAATATTT  
2590 TTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAATATTT  
2589 TTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAATATTT  
2673 TTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAATGTTT

2708 CTAGTAGACAAACTAGAAG-----  
2710 CTAGTAGACAAAGAAGAAGAAGAAGAAGAAGAAAGAAGA  
2709 CTAGTAGACAAAGAAGAAGAAGAAGAAGAAG-----  
2793 CTAGTAGACAAAGAAGAAGAAGAAGAAG-----

Fig.8  
Sheet 8

Fig.8  
SHEET 7



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TGATAAATGGATTGAGTTGCTCAAGAAACGGGATGAGGATTGGAGA  
TGATAAA[ ]GGATTGAGTTGCTCAAGAAACGGGATGAGGATTGGAGA  
TGATAAATGGATTGAGTTGCTCAAGAAACGGGATGAGGATTGGAGA  
TGATAAATGGATTGAGTTGCTCAAGAAACGGGATGAGGATTGGAGA

TCAAGCTCTAGTCGGTGATAAACTATAGCATTCTGGCTGATGGAC  
TCAAGCTCTAGTCGGTGATAAACTATAGCATTCTGGCTGATGGAC  
TCAAGCTCTAGTCGGTGATAAACTATAGCATTCTGGCTGATGGAC  
TCAAGCTCTAGTCGGTGATAAACTATAGCATTCTGGCTGATGGAC

GATGATTAGGCTTGTAACCTATGGGATTAGGAGGAGAAGGGTACCTA  
GATGATTAGGCTTGTAACCTATGGGATTAGGAGGAGAAGGGTACCTA  
GATGATTAGGCTTGTAACCTATGGGATTAGGAGGAGAAGGGTACCTA  
GATGATTAGGCTTGTAACCTATGGGATTAGGAGGAGAAGGGTACCTA

CTCAGTAATTC[ ]CCCGGAAACCAATTCAGTTATGATAAATGCAGACGG  
CTCAGTAATTC[ ]CCCGGAAACCAATTCAGTTATGATAAATGCAGACGG  
CTCAGTAATTC[ ]CCCGGAAACCAATTCAGTTATGATAAATGCAGACGG  
CTCAGTAATTC[ ]CCCGGAAACCAATTCAGTTATGATAAATGCAGACGG

TGAAGATAAATATGAGTTTATGACTTCAGAACACCAAGTTCATATCA  
TGAAGATAAATATGAGTTTATGACTTCAGAACACCAAGTTCATATCA  
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TGAAGATAAATATGAGTTTATGACTTCAGAACACCAAGTTCATATCA

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AAAAAGCTATTCAGACTATCGCATAG[ ]CTGCCTGAAGCCTGGAAAA  
AAAA[ ]GCTATTCAGACTATCGCATAGGCTGCCTGAAGCCTGGAAAA  
AAAAAGCTATTCAGACTATCGCATAGGCT[ ]CTGAAGCCTGGAAAA

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CACCTTTGAAGGATGGTATGATGATCGTCCTCGTTCAATTATGGTG  
CACCTTTGAAGGATGGTATGATGATCGTCCTCGTTCAATTATGGTG  
CACCTTTGAAGGATGGTATGATGATCGTCCTCGTTCAATTATGGTG

-----TAGCAGTAGTAGAAGAAGT[ ]G-----AAGAATGAACG  
AGAAGTAGCAG[ ]CAGTAGAAGAAGTAGTAGTAGAAGAAGAATGAACG  
-----TAGCAGTAGTAGAAGAAGTAGTAGTAGAAGAAGAATGAACG  
-----TAGCAGTAGTAGAAGAAGTAGTAGTAGAAGAAGAATGAACG

Fig. 8  
Sheet 9

Fig. 8  
SHEET 8

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GTGGGTGATATTGTTTCATACACTGACAAATAGA 11con.seq  
GTGGGTGATATTGTTTCATACACTGACAAATAGA 19con.seq  
GTGGGTGATATTGTTTCATACACTGACAAATAGA 10con.seq  
GTGGGTGATATTGTTTCATACACTGACAAATAGA psbe2con.seq

AAGGATATGTATGATTTTATGGCTCTGGATAGA 11con.seq  
AAGGATATGTATGATTTTATGGCTCTGGATAGA 19con.seq  
AAGGATATGTATGATTTTATGGCTCTGGATAGA 10con.seq  
AAGGATATGTATGATTTTATGGCTCTGGATAGA psbe2con.seq

AATTTTCATGGGAAATGAATTCGGCCACCCTGAG 11con.seq  
AATTTTCATGGGAAATGAATTCGGCCACCCTGAG 19con.seq  
AATTTTCATGGGAAATGAATTCGGCCACCCTGAG 10con.seq  
AATTTTCATGGGAAATGAATTCGGCCACCCTGAG psbe2con.seq

AGATTTGACCTGGGAGATGCAGAATATTTAAGA 11con.seq  
AGATTTGACCTGGGAGATGCAGAATATTTAAGA 19con.seq  
AGATTTGACCTGGGAGATGCAGAATATTTAAGA 10con.seq  
AGATTTGACCTGGGAGATGCAGAATATTTAAGA psbe2con.seq

CGAAAGGATGAAGGAGATAGGATGATTGTATTT 11con.seq  
CGAAAGGATGAAGGAGATAGGATGATTGTATTT 19con.seq  
CGAAAGGATGAAGGAGATAGGATGATTGTATTT 10con.seq  
CGAAAGGATGAAGGAGATAGGATGATTGTATTT psbe2con.seq

TACAAGGTTGCTTGGACTCAGATGATCCACTT 11con.seq  
TACAAGGTTGCTTGGACTCAGATGATCCACTT 19con.seq  
TACAAGGTTGCTTGGACTCAGATGATCCACTT 10con.seq  
TACAAGGTTGCTTGGACTCAGATGATCCACTT psbe2con.seq

TATGCACCTAGTAGAACAGCAGTGGTCTATGCA 11con.seq  
TATGCACCTAGTAGAACAGCAGTGGTCTATGCA 19con.seq  
TATGCACCTAGTAGAACAGCAGTGGTCTATGCA 10con.seq  
TATGCACCTAGTAGAACAGCAGTGGTCTATGCA psbe2con.seq

AACTTGTGATCGCGTTGAAAGATTTGAACGTTA 11con.seq  
AACTTGTGATCGCGTTGAAAGATTTGAACG--- 19con.seq  
AACTTGTGATCGCGTTGAAAGATTTGAACG--- 10con.seq  
AACTTGTGATCGCGTTGAAAGATTTGAACG--- psbe2con.seq

Fig. 8  
SHEET 9





2795 CTTGGTCATCCACATAGAGCTTCTTGAC-----  
2827 -----CTACATAGAGCTTCTTGACGTATCTGGCAATAT  
2814 -----CCACATAGAGCTTCTTGACGTATCTGGCAATAT  
2895 -----CTACATAGAGCTTCTTGACGTATCTGGCAATAT

2898 AGAGATGAAGTGCTGAACAAA--CATATGTAAAATCGATGAA  
2937 AGAGATGAAGTGCTGAACAAA--CATATGTAAAATCGATGAA  
2924 AGAGATGAAGTGCTGAACAAA**AA**CATATGTAAAATCGATGAA  
3005 AGAGATGAAGTGCTGAACAAA--CATATGTAAAATCGATGAA

Fig. 8  
Sheet 11

3123 GCCCACTAGAAATCAATTATGTGAGACCTAAAAACAATAAC

Fig. 8 SHEET 10



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---ATCAGTCTTGGCGGAATTG CATGTGACAA GAAGTTTGCACTT  
TGCATCAGTCTTGGCGGAATTT CATGTGACAG -AAGTTTGCAATT  
TGCATTAGTCTTGGCGGAATTT CATGTGACAA -GAGTTTGCAATT  
TGCATCAGTCTTGGCGGAATTT CATGTGACAA -AAGTTTGCAATT

TTTATGTGGAATGCTGGGACGATCGAATTCCTGCAGCC  
TTTATGTGGAATGCTGGGACGATCGAATTCCTGCAG  
TTTATGTGGAATGCTGGGACGATCGAATTCCTGCAGCC  
TTTATGTGGAATGCTGGGACGGGCTTCAGCAGCTTTTGCTTAGTGA

CATAAAATGGAAATAGTGCTGATCTAATGATGTTTAAANCCNNNNA

Fig. 8  
Sheet 12

Fig. 8 SHEET 11



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CTTTCCACTATTAGTAGT**CCAC**CGATATACGC 11con.seq  
CTTTCCACTATTAGTAGTGCAACGATATACGC 19con.seq  
CTTTCCACTATTAGTAGTGCAACGATATACGC 10con.seq  
CTTTCCACTATTAGTAGTGCAACGATATACGC psbe2con.seq

11con.seq

19con.seq

10con.seq

**GTTCTGTAAATTGTCATCTCTTTANATGTACA** psbe2con.seq

11con.seq

19con.seq

10con.seq

**AAAAAAAAAAAAAAAACTCGAC**

psbe2con.seq

Fig. 8 SHEET 12



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GGATGCTAATGTTTCTGTATTCTTGAAAAAGCACTCTCTTTCACGG

CCTACGATTACAAAGACATAAGAAGCTTTTTCGTGAGAGAAAAGTGCC

A N V S V F L K K H S L S R

TTCTACAGTTGCAGCATCGGGGAAAGTCCTTGTGCCTGGAAYCCAG

AAGATGTCAACGTCGTAGCCCCTTTCAGGAACACGGACCTTRGGTC

S T V A A S G K V L V P G ? Q

GACATCTCCAGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA

CTGTAGAGGTCTTTTAAGGGGTCGTAGTTGACTACATCTATCAAGT

T S P E N S P A S T D V D S S

TGAGCCGTCAAGTGATCTTACAGGAAGTGTTGAAGAGCTGGATTTT

ACTCGGCAGTTCACTAGAATGTCCTTCACAACTTCTCGACCTAAAA

E P S S D L T G S V E E L D F

TAAACATTAAATACTTCTGAAGAGACAATTATTGATGAATCTGAT

ATTTTGTAATTTATGAAGACTTCTCTGTTAATAACTACTTAGACTA

K T L N T S E E T I I D E S D

Hinc II

GATTTATGAAATAGACCCCCTTTTGACAAACTATCGTCAACACCTT

CTAAATACTTTATCTGGGGGAAAAGTGGTTGATAGCAGTTGTGGAA

I Y E I D P L L T N Y R Q H L

Fig.9  
Sheet  
2

Fig.9 SHEET 1

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Bgl II

AAGATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATCCCGACC  
TTCTAGAACCGACTTTTCAGAAGAATGTTAAGGCTTAGGGCTGG  
K I L A E K S S Y N S E S R P 90

AGTGATAGCTCCTCATCCTCAACAGACCAATTTGAGTTCACTGA  
TCACTATCGAGGAGTAGGAGTTGTCTGGTTAAACTCAAGTGACT  
S D S S S S S T D Q F E F T E 180

ACAATGGAACACGCTAGCCAGATTAAAACTGAGAACGATGACGT  
TGTTACCTTGTGCGATCGGTCTAATTTTGA CTCTTGCTACTGCA  
T M E H A S Q I K T E N D D V 270

GCTTCATCACTACA ACTACAAGAAGGTGGTAAACTGGAGGAGTC  
CGAAGTAGTGATGTTGATGTTCTTCCACCATTTGACCTCCTCAG  
A S S L Q L Q E G G K L E E S 360

AGGATCAGAGAGAGGGGCATCCCTCCACCTGGACTTGGTCAGAA  
TCCTAGTCTCTCTCCCCGTAGGGAGGTGGACCTGAACCACTCTT  
R I R E R G I P P P G L G Q K 450

GATTACAGGTATTACAGTACAAGAACTGAGGGAGGCAATTGA  
CTAATGTCCATAAGTGTCATGTTCTTTGACTCCCTCCGTAACT  
D Y R Y S Q Y K K L R E A I D 540

Fig. 9 SHEET 2

SUBSTITUTE SHEET (RULE 26)

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Hind III

CAAGTATGAGGGTGGTTTGGGAAGCTTTTTCTCGTGGTTATGAAAAA  
GTTCACTACTCCCAACAAACCTTCGAAAAAGAGCACCAATACTTTTT  
K Y E G G L E A F S R G Y E K

Pvu II

GGCTCCTGGTGCCAGTCAGCTGCCCTCATTGGAGATTTCAACAAT  
CCGAGGACCACGGGTCAGTCGACGGGAGTAACCTCTAAAGTTGTTA  
A P G A Q S A A L I G D F N N

CTGGGAGATTTTTCTGCCAAATAATGTGGATGGTTCTCCTGCAATT  
GACCCTCTAAAAAGACGGTTTATTACACCTACCAAGAGGACGTTAA  
W E I F L P N N V D G S P A I

TGTTAAGGATTCCATTCTGCTTGGATCAACTACTCTTTACAGCTT  
ACAATTCCTAAGGTAAGGACGAACCTAGTTGATGAGAAATGTCGAA  
V K D S I P A W I N Y S L Q L

AGAGGAGAGGTATRTCTTCCAACACCCACGGCCAAAGAAACCAAAG  
TCTCCTCTCCATAYAGAAGGTTGTGGGTGCCGGTTTCTTTGGTTTC  
E E R Y ? F Q H P R P K K P K

Fig.9  
Sheet  
4

Fig.9 SHEET 3



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630

720

810

900

990

Fig. 9 SHEET 4



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Xmn I

GCCTAAAATTAAC TCATACGTGAATTTTAGAGATGAAGTTCTTCCT  
CGGATTTTAATTGAGTATGCACTTAAATCTCTACTTCAAGAAGGA  
P K I N S Y V N F R D E V L P

TCAAGAGCATTCTTATTATGCTAGTTTTGGTTATCATGTCACAAAT  
AGTTCTCGTAAGAATAATACGATCAAACCAATAGTACAGTGTTTA  
Q E H S Y Y A S F G Y H V T N

GTCTTTGATTGATAAAGCTCATGAGCTAGGAATTGTTGTTCTCATG  
CAGAACTAACTATTTTCGAGTACTCGATCCTTAACAACAAGAGTAC  
S L I D K A H E L G I V V L M

GAACATGTTTGACGGCACAGATAGTTGTTACTTTCACTCTGGAGCT  
CTTGTAACAACTGCCGTGTCTATCAACAATGAAAGTGAGACCTCGA  
N M F D G T D S C Y F H S G A

AACTGGGAGGTACTTAGGTATCTTCTCTCAAATGCGAGATGGTGG  
TTTGACCCTCCATGAATCCATAGAAGAGAGTTTACGCTCTACCACC  
N W E V L R Y L L S N A R W W

ATCAATGATGTATACTCACCACGGATTATCGGTGGGATTCACTGGG  
TAGTTACTACATATGAGTGGTGCCTAATAGCCACCCTAAGTGACCC  
S M M Y T H H G L S V G F T G

Fig.9  
Sheet  
6

Fig.9 SHEET 5

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CGCATAAAAAASCTTGGGTACAATGCGGTGCAAATTATGGCTAT 1080  
GCGTATTTTTTSGAACCCATGTTACGCCACGTTTAATACCGATA  
R I K ? L G Y N A V Q I M A I

TTTTTTGCACCAAGCAGCCGTTTTTGAACGCCCGACGACCTTAA 1170  
AAAAACGTGGTTCGTCTGGCAAAACCTTGCGGGCTGCTGGAATT  
F F A P S S R F G T P D D L K

GACATTGTTACAGCCATGCATCAAATAATACTTTAGATGGACT 1260  
CTGTAACAAGTGTCTGGTACGTAGTTTATTATGAAATCTACCTGA  
D I V H S H A S N N T L D G L

Sac I

CGTGGTTATCATTGGATGTGGGATTCCCGCCTCTTTAACTATGG 1350  
GCACCAATAGTAACCTACACCCTAAGGGCGGAGAAATTGATACC  
R G Y H W M W D S R L F N Y G

TTGGATGAGTTCAAATTTGATGGATTTAGATTTGATGGTGTGAC 1440  
AACCTACTCAAGTTTAAACTACCTAAATCTAAACTACCACTG  
L D E F K F D G F R F D G V T

AACTACGAGGAATACTTTGGACTCGCAACTGATGTGGATGCTGT 1530  
TTGATGCTCCTTATGAAACCTGAGCGTTGACTACACCTACGACA  
N Y E E Y F G L A T D V D A V

Fig. 9 SHEET 6

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Hinc II

TGTGTATCTGATGCTGGTCAACGATCTTATTCACGGGCTTTTCCCA  
ACACATAGACTACGACCAGTTGCTAGAATAAGTGCCCGAAAAGGGT  
V Y L M L V N D L I H G L F P

TTGTATTCCCGTTCAAGATGGGGGTGTTGGCTTTGACTATCGGCTG  
AACATAAGGGCAAGTTCTACCCCCACAACCGAAACTGATAGCCGAC  
C I P V Q D G G V G F D Y R L

GGATGAGGATTGGAGAGTGGGTGATATTGTTTCATACACTGACAAAT  
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D E D W R V G D I V H T L T N

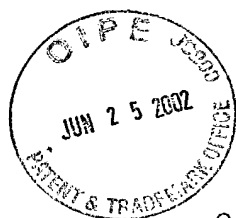
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Q A L V G D K T I A ? W L M D

ATTAATAGATCGTGGGATAGCATTGCACAAGATGATTAGGCTTGTA  
TAATTATCTAGCACCTATCGTAACGTGTTCTACTAATCCGAACAT  
L I D R G I A L H K M I R L V

Fig.9  
Sheet  
8

Fig. 9 SHEET 7

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GATGCAATTACCATTGGTGAAGATGTTAGCGGAATGCCGACATT  
CTACGTTAATGGTAACCACTTCTACAATCGCCTTACGGCTGTAA  
D A I T I G E D V S G M P T F

Nde I

CATATGGCAATTGCTGATAAATGGATTGAGTTGCTCAAGAAACG  
GTATACCGTTAACGACTATTTACCTAACTCAACGAGTTCTTTGC  
H M A I A D K W I E L L K K R

AGAAGATGGTCGGAAAAGTGTGTTTCATMCGCTGAAAGTCATGA  
TCTTCTACCAGCCTTTTCACACAAAGTAKGCGACTTTCAGTACT  
R R W S E K C V S ? A E S H D

Hinc II

AAGGATATGTATGATTTTATGGCTCTGGATAGACCGTCAACATC  
TTCCTATACATACTAAAATACCGAGACCTATCTGGCAGTTGTAG  
K D M Y D F M A L D R P S T S

Asp 718  
Kpn I

ACTATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATGGGAAA  
TGATACCCTAATCCTCCTCTTCCCATGGATTAAAGTACCCTTT  
T M G L G G E G Y L N F M G N

Fig. 9 SHEET 8

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EcoR I

TGAATTCGGCCACCCTGAGTGGATTGATTTCCCTAGGGCTGARCAA  
 ACTTAAGCCGGTGGGACTCACCTAACTAAAGGGATCCCGACTYGT  
 E F G H P E W I D F P R A E O

Ssp I

TGATAAATGCAGACGGAGATTTGACCTGGGAGATGCAGAATATTTA  
 ACTATTTACGTCTGCCTCTAACTGGACCCTCTACGTCTTATAAAT  
 D K C R R R F D L G D A E Y L

TGAAGATAAATATGAGTTTATGACTTCAGAACACCAGTTCATATCA  
 ACTTCTATTTATACTCAAATACTGAAGTCTTGTGGTCAAGTATAGT  
 E D K Y E F M T S E H Q F I S

CCTAGTTTTTGTCTTTAATTTTCACTGGACAAATAGCTATTCAGAC  
 GGATCAAAAACAGAAATTAAGTGACCTGTTTATCGATAAGTCTG  
 L V F V F N F H W T N S Y S D

GGACTCAGATGATCCACTTTTTTGGTGGCTTCGGGAGAATTGATCAT  
 CCTGAGTCTACTAGGTGAAAAACCACCGAAGCCCTCTTAAGTAGTA  
 D S D D P L F G G F G R I D H

YCGYYCAATTATGGTGTATGCACCTAGTAGAACAGCAGTGGTCTAT  
 RGCRRGTTAATACCACATACGTGGATCATCTTGTCTCGTCACCAGATA  
 R ? I M V Y A P S R T A V V Y

NGAAGAATTTT  
 NCTTCTTAAAA  
 E E F

2531

Fig 9  
Sheet  
10

Fig 9 SHEET 9

SUBSTITUTE SHEET (RULE 26)



45/75

CACCTCTCTGATGGCTCAGTAATTCCCGGAAACCAATTCAGTTA  
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H L S D G S V I P G N Q F S Y

Nco I

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TCTATGGTACCCAACGTTCTTAAACTGGCCCGATACGTCATAGA 2160  
R Y H G L Q E F D R A M Q Y L

CGAAAGGATGAAGGAGATAGGATGATTGTATTTGAAARAGGAAA  
GCTTTCCTACTTCCTCTATCCTACTAACATAAACTTTYTCCTTT 2250  
R K D E G D R M I V F E ? G N

TATCGCATAGGCTGCCTGAAGCCTGGAAAATACAAGGTTGGCTT  
ATAGCGTATCCGACGGACTTCGGACCTTTTATGTTCCAACCGAA 2340  
Y R I G C L K P G K Y K V G L

Ssp I

AATGCCGAATATTTACCTCTGAAGGATCGTATGATGATCGYCC  
TTACGGCTTATAAAGTGGAGACTTCCTAGCATACTACTAGCRGG 2430  
N A E Y F T S E G S Y D D R P

GCACTAGTAGACAAANTAGAAGNAGAAGAAGAAGAANCCGN  
CGTGATCATCTGTTTATCTTCNTCTTCTTCTTCTTCTTNGGCN 2520  
A L V D K ? E ? E E E E E ? ?

Fig. 9 SHEET 10

SUBSTITUTE SHEET (RULE 26)

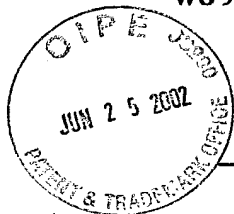


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|     |  |  |     |       |
|-----|--|--|-----|-------|
|     |  | 10                                     | 20  | 30    |
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| 1   |  | TTGATGGG CCTTGA ACTCAGCAATTTGACACTCAGT |     |       |
| 1   |  | TTGATGGG CCTTGA ACTCAGCAATTTGACACTCAGT |     |       |
| 1   |  | T-                                     |     |       |
| 1   |  | -                                      |     |       |
|     |  | 80                                     | 90  | 100   |
| 69  |  | TTTTTCTCTTAATTCCAACCAAGG-AATGAATAAAA   |     |       |
| 70  |  | TTTTTCTCTTAATTCCAACCAAGGGAATGAATAAAAG  |     |       |
| 71  |  | TTTTTCTCTTAATTCCAACCAAGG-AATGAATAAAAG  |     |       |
| 7   |  | -AAGAG                                 |     |       |
| 1   |  | -                                      |     |       |
|     |  | 150                                    | 160 | 170   |
| 138 |  | GAAAGATGGTGTATACACTCTCTGGAGTTCGTTTTCC  |     |       |
| 140 |  | GAAAGATGGTGTATATACTCTCTGGAGTTCGTTTTCC  |     |       |
| 140 |  | GAAAGATGGTGTATACACTCTCTGGAGTTCGTTTTCC  |     |       |
| 33  |  | -TCT                                   |     |       |
| 1   |  | -                                      |     |       |
|     |  | 220                                    | 230 | 240   |
| 208 |  | CAGCAGTAATGGTGATCGGAGGAATGCTAATATTTCT  |     |       |
| 210 |  | CAGCAGTAATGGTGATCGGAGGAATGCTAATGTTTCT  |     |       |
| 210 |  | CAGCAGTAATGGTGATCGGAGGAATGCTAATGTTTCT  |     |       |
| 48  |  | CA                                     |     |       |
| 1   |  | -GGATGCTAATGTTTCT                      |     |       |
|     |  | 290                                    | 300 | 310 * |
| 278 |  | ATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATCC   |     |       |
| 280 |  | ATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATTCC  |     |       |
| 280 |  | ATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATTCC  |     |       |
| 57  |  | ATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATTCC  |     |       |
| 50  |  | ATCTTGGCTGAAAAGTCTTCTTACAATTCCGAATCC   |     |       |

Fig.10  
Sheet 2

Fig. 10 SHEET 1



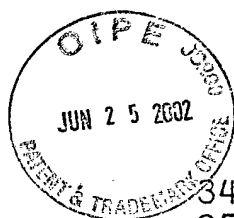
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|                                   |     |                       |     |                 |
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| TAGTTACACTG                       | CC  | ATCACTTATCAGATCTCTAT  |     | 10con. seq      |
| TAGTTACACTCCTATCACTTATCAGATCTCTAT |     |                       |     | 11con. seq      |
| TAGTTACACTCCTATCACTTATCAGATCTCTAT |     |                       |     | 19con. seq      |
| -----CATTA-----                   |     |                       |     | 86CON. SEQ      |
| -----                             |     |                       |     | pcrsbe2con. seq |
| 110                               | 120 | 130                   | 140 |                 |
| GATAGATTTGTAAAAACCCTAAGGAGAGAAGAA |     |                       |     | 10con. seq      |
| GATAGATTTGTAAAAACCCTAAGGAGAGAAGAA |     |                       |     | 11con. seq      |
| GATAGATTTGTAAAAACCCTAAGGAGAGAAGAA |     |                       |     | 19con. seq      |
| GAGAAATT-----AACTATGAGAGGA-----   |     |                       |     | 86CON. SEQ      |
| -----                             |     |                       |     | pcrsbe2con. seq |
| 180                               | 190 | 200                   | 210 |                 |
| TACTGTTCCATCAGTGTACAAATCTAATGGATT |     |                       |     | 10con. seq      |
| TACTGTTCCATCAGTGTACAAATCTAATGGATT |     |                       |     | 11con. seq      |
| TACTGTTCCATCAGTGTACAAATCTAATGGATT |     |                       |     | 19con. seq      |
| CACCAT--CACCA-----T               |     |                       |     | 86CON. SEQ      |
| -----                             |     |                       |     | pcrsbe2con. seq |
| 250                               | 260 | 270                   | 280 |                 |
| GTATTCTTGAAAAA                    | A   | CACTCTCTTTACGGAAG     |     | 10con. seq      |
| GTATTCTTGAAAAAGCACTCTCTTTACGGAAG  |     |                       |     | 11con. seq      |
| GTATTCTTGAAAAAGCACTCTCTTTACGGAAG  |     |                       |     | 19con. seq      |
| -----CATGG--G                     |     |                       |     | 86CON. SEQ      |
| GTATTCTTGAAAAAGCACTCTCTTTACGGAAG  |     |                       |     | pcrsbe2con. seq |
| 320                               | 330 | 340                   | 350 |                 |
| GACCTTCTACA                       | A   | TTGCAGCATCGGGGAAAGTCC |     | 10con. seq      |
| GACCTTCTACAGTTGCAGCATCGGGGAAAGTCC |     |                       |     | 11con. seq      |
| GACCTTCTACAGTTGCAGCATCGGGGAAAGTCC |     |                       |     | 19con. seq      |
| GACCTTCTACAGTTGCAGCATCGGGGAAAGTCC |     |                       |     | 86CON. SEQ      |
| GACCTTCTACAGTTGCAGCATCGGGGAAAGTCC |     |                       |     | pcrsbe2con. seq |

Fig. 10 SHEET 2

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|     | 360          | 370                      | 380 |
|-----|--------------|--------------------------|-----|
| 348 | TTGTGCCTGGAA | TCAGAGTGATAGCTCCTCATCCTC |     |
| 350 | TTGTGCCTGGAA | CCAGAGTGATAGCTCCTCATCCTC |     |
| 350 | TTGTGCCTGGAA | CCAGAGTGATAGCTCCTCATCCTC |     |
| 127 | TTGTGCCTGGAA | CCAGAGTGATAGCTCCTCATCCTC |     |
| 120 | TTGTGCCTGGAA | TCAGAGTGATAGCTCCTCATCCTC |     |

|     | 430                                   | 440 | 450 |
|-----|---------------------------------------|-----|-----|
| 418 | AGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA |     |     |
| 420 | AGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA |     |     |
| 420 | AGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA |     |     |
| 197 | AGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA |     |     |
| 190 | AGAAAATTCCCCAGCATCAACTGATGTAGATAGTTCA |     |     |

|     | 500                                   | 510 | 520 |
|-----|---------------------------------------|-----|-----|
| 488 | AACGATGACGTTGAGCCGTCAAGTGATCTTACAGGAA |     |     |
| 490 | AACGATGACGTTGAGCCGTCAAGTGATCTTACAGGAA |     |     |
| 490 | AACGATGACGTTGAGCCGTCAAGTGATCTTACAGGAA |     |     |
| 267 | AACGATGACGTTGAGCCGTCAAGTGATCTTACAGGAA |     |     |
| 260 | AACGATGACGTTGAGCCGTCAAGTGATCTTACAGGAA |     |     |

|     | 570                                    | 580 | 590 |
|-----|--|-----|-----|
| 558 | AAC TACAAGAAGGTGGTAAACTGGAGGAGTCTAAAAC |     |     |
| 560 | AAC TACAAGAAGGTGGTAAACTGGAGGAGTCTAAAAC |     |     |
| 560 | AAC TACAAGAAGGTGGTAAACTGGAGGAGTCTAAAAC |     |     |
| 337 | AAC TACAAGAAGGTGGTAAACTGGAGGAGTCTAAAAC |     |     |
| 330 | AAC TACAAGAAGGTGGTAAACTGGAGGAGTCTAAAAC |     |     |

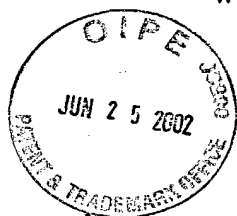
|     | 640                                   | 650 | 660 |
|-----|---------------------------------------|-----|-----|
| 628 | ATCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCT |     |     |
| 630 | ATCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCT |     |     |
| 630 | ATCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCT |     |     |
| 407 | ATCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCT |     |     |
| 400 | ATCTGATAGGATCAGAGAGAGGGGCATCCCTCCACCT |     |     |

Fig.10  
Sheet 4

Fig.10 SHEET 3

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|                                   |                |                |     |                 |
|-----------------------------------|----------------|----------------|-----|-----------------|
| 390                               | 400            | 410            | 420 |                 |
| AACAGAT                           | CAATTTGAGTTC   | GCTGAGACATCTCC |     | 10con. seq      |
| AACAGACCAATTTGAGTTC               | ACTGAGACATCTCC |                |     | 11con. seq      |
| AACAGACCAATTTGAGTTC               | ACTGAGACATCTCC |                |     | 19con. seq      |
| AACA                              | ACCAATTTGAGTTC | ACTGAGACATCTCC |     | 86CON. SEQ      |
| AACAGACCAATTTGAGTTC               | ACTGAGACATCTCC |                |     | pcrsbe2con. seq |
| 460                               | 470            | 480            | 490 |                 |
| ACAATGGAACACGCTAGCCAGATTAA        | AACTGAG        |                |     | 10con. seq      |
| ACAATGGAACACGCTAGCCAGATTAA        | AACTGAG        |                |     | 11con. seq      |
| ACAATGGAACACGCTAGCCAGATTAA        | AACTGAG        |                |     | 19con. seq      |
| ACAATGGAACACGCTAGCCAGATTAA        | AACTGAG        |                |     | 86CON. SEQ      |
| ACAATGGAACACGCTAGCCAGATTAA        | AACTGAG        |                |     | pcrsbe2con. seq |
| 530                               | 540            | 550            | 560 |                 |
| GTGTTGAAGAGCTGGATTTTGCTTCATCACTAC |                |                |     | 10con. seq      |
| GTGTTGAAGAGCTGGATTTTGCTTCATCACTAC |                |                |     | 11con. seq      |
| GTGTTGAAGAGCTGGATTTTGCTTCATCACTAC |                |                |     | 19con. seq      |
| GTGTTGAAGAGCTGGATTTTGCTTCATCACTAC |                |                |     | 86CON. SEQ      |
| GTGTTGAAGAGCTGGATTTTGCTTCATCACTAC |                |                |     | pcrsbe2con. seq |
| 600                               | 610            | 620            | 630 |                 |
| ATTAAATACTTCTGAAGAGACAATTATTGATGA |                |                |     | 10con. seq      |
| ATTAAATACTTCTGAAGAGACAATTATTGATGA |                |                |     | 11con. seq      |
| ATTAAATACTTCTGAAGAGACAATTATTGATGA |                |                |     | 19con. seq      |
| ATTAAATACTTCTGAAGAGACAATTATTGATGA |                |                |     | 86CON. SEQ      |
| ATTAAATACTTCTGAAGAGACAATTATTGATGA |                |                |     | pcrsbe2con. seq |
| 670                               | 680            | 690            | 700 |                 |
| GGACTTGGTCAGAAGATTTATGAAATAGACCCC |                |                |     | 10con. seq      |
| GGACTTGGTCAGAAGATTTATGAAATAGACCCC |                |                |     | 11con. seq      |
| GGACTTGGTCAGAAGATTTATGAAATAGACCCC |                |                |     | 19con. seq      |
| GGACTTGGTCAGAAGATTTATGAAATAGACCCC |                |                |     | 86CON. SEQ      |
| GGACTTGGTCAGAAGATTTATGAAATAGACCCC |                |                |     | pcrsbe2con. seq |

Fig.10 SHEET 4



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|     | 710                                   | 720                   | 730  |
|-----|---------------------------------------|-----------------------|------|
| 698 | CTTTTGACAAACTATCGTCAACACCTTGATTACAGGT |                       |      |
| 700 | CTTTTGACAAACTATCGTCAACACCTTGATTACAGGT |                       |      |
| 700 | CTTTTGACAAACTATCGTCAACACCTTGATTACAGGT |                       |      |
| 477 | CTTTTGACAAACTATCGTCAACACCTTGATTACAGGT |                       |      |
| 470 | CTTTTGACAAACTATCGTCAACACCTTGATTACAGGT |                       |      |
|     | 780                                   | 790                   | 800  |
| 768 | ACAAGTATGAGGGTGGTTTGGGAAGCTTTTCTCGTGG |                       |      |
| 770 | ACAAGTATGAGGGTGGTTTGGGAAGC            | TTTTCTCGTGG           |      |
| 770 | ACAAGTATGAGGGTGGTTTGGGAAGC            | TTTTCTCGTGG           |      |
| 547 | ACAAGTATGAGGGTGGTTTGGGAAGCTTTTCTCGTGG |                       |      |
| 540 | ACAAGTATGAGGGTGGTTTGGGAAGCTTTTCTCGTGG |                       |      |
|     | 850                                   | 860                   | 870  |
| 838 | AGGTATCACTTACCGTGAGTGGGCTCCTGGTGCCCAG |                       |      |
| 839 | AGGTATCACTTACCGTGAGTGGGCTCCTGGTGCCCAG |                       |      |
| 840 | AGGTATCACTTACCGTGAGTGGGCTC            | TTGGTGCCCAG           |      |
| 617 | AGGTATCACTTACCGTGAGTGGGCTCCTGGTGCCCAG |                       |      |
| 610 | AGGTATCACTTACCGTGAGTGGGCTCCTGGTGCCCAG |                       |      |
|     | 920                                   | 930                   | 940  |
| 908 | GACGCAAATGCTGAC                       | TTATGACTCGGAATGAATTTG |      |
| 909 | GACGCAAATGCTGACATTATGACTCGGAATGAATTTG |                       |      |
| 910 | GACGCAAATGCTGACATTATGACTCGGAATGAATTTG |                       |      |
| 687 | GACGCAAATGCTGACATTATGACTCGGAATGAATTTG |                       |      |
| 680 | GACGCAAATGCTGACATTATGACTCGGAATGAATTTG |                       |      |
|     | 990                                   | 1000                  | 1010 |
| 978 | ATGGTTCTCCTGCAATTCCTCATGGGTCCAGAGTGAA |                       |      |
| 979 | ATGGTTCTCCTGCAATTCCTCATGGGTCCAGAGTGAA |                       |      |
| 980 | ATGGTTCTCCTGCAATTCCTCATGGGTCCAGAGTGAA |                       |      |
| 757 | ATGGTTCTCCTGCAATTCCTCATGGGTCCAGAGTGAA |                       |      |
| 750 | ATGGTTCTCCTGCAATTCCTCATGGGTCCAGAGTGAA |                       |      |

Fig.10  
Sheet 6

Fig.10 SHEET 5

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| 740                              | 750 | 760 | 770 |                 |
|----------------------------------|-----|-----|-----|-----------------|
| ATTCACAGTACAAGAACTGAGGGAGGCAATTG |     |     |     | 10con. seq      |
| ATTCACAGTACAAGAACTGAGGGAGGCAATTG |     |     |     | 11con. seq      |
| ATTCACAGTACAAGAACTGAGGGAGGCAATTG |     |     |     | 19con. seq      |
| ATTCACAGTACAAGAACTGAGGGAGGCAATTG |     |     |     | 86CON. SEQ      |
| ATTCACAGTACAAGAACTGAGGGAGGCAATTG |     |     |     | pcrsbe2con. seq |

| 810  | 820 | 830 | 840 |                 |
|--|-----|-----|-----|-----------------|
| TTATGAAA <b>G</b> AATGGGTTTCACTCGTAGTGCTAC |     |     |     | 10con. seq      |
| TTATGAAAAAATGGGTTTCACTCGTAGTGCTAC          |     |     |     | 11con. seq      |
| TTATGAAAAAATGGGTTTCACTCGTAGTGCTAC          |     |     |     | 19con. seq      |
| TTATGAAAAAATGGGTTTCACTCGTAGTGCTAC          |     |     |     | 86CON. SEQ      |
| TTATGAAAAAATGGGTTTCACTCGTAGTGCTAC          |     |     |     | pcrsbe2con. seq |

| 880  | 890 | 900 | 910 |                 |
|--|-----|-----|-----|-----------------|
| TCAGCTGCCCTCATTGG <b>G</b> GATTTCAACAATTGG |     |     |     | 10con. seq      |
| TCAGCTGCCCTCATTGGAGATTTCAACAATTGG          |     |     |     | 11con. seq      |
| TCAGCTGCCCTCATTGGAGATTTCAACAATTGG          |     |     |     | 19con. seq      |
| TCAGCTGCCCTCATTGGAGATTTCAACAATTGG          |     |     |     | 86CON. SEQ      |
| TCAGCTGCCCTCATTGGAGATTTCAACAATTGG          |     |     |     | pcrsbe2con. seq |

| 950  | 960 | 970 | 980 |                 |
|--|-----|-----|-----|-----------------|
| GTGTCTG <b>A</b> GAGATTTTTCTGCCAAATAATGTGG |     |     |     | 10con. seq      |
| GTGTCTGGGAGATTTTTCTGCCAAATAATGTGG          |     |     |     | 11con. seq      |
| GTGTCTGGGAGATTTTTCTGCCAAATAATGTGG          |     |     |     | 19con. seq      |
| GTGTCTGGGAGATTTTTCTGCCAAATAATGTGG          |     |     |     | 86CON. SEQ      |
| GTGTCTGGGAGATTTTTCTGCCAAATAATGTGG          |     |     |     | pcrsbe2con. seq |

| 1020                                       | 1030 | 1040 | 1050 |                 |
|--|------|------|------|-----------------|
| GATACGTATGGACACTCCATCAGGTGTTAAGGA          |      |      |      | 10con. seq      |
| GATACGTATGGACACTCCATCAGGTGTTAAGGA          |      |      |      | 11con. seq      |
| GATACGTATGGACACTCCATCAGGTGTTAAGGA          |      |      |      | 19con. seq      |
| GATACGTATGGACACTCCATCAGGTGTTAAGGA          |      |      |      | 86CON. SEQ      |
| GATACG <b>Y</b> ATGGACACTCCATCAGGTGTTAAGGA |      |      |      | pcrsbe2con. seq |

Fig. 10 SHEET 6



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|      | 1060                                   | 1070               | 1080         |
|------|--|--------------------|--------------|
| 1048 | TTCCATTTCCTGCTTGGATCAACTACTCTTTACAGCTT |                    |              |
| 1049 | TTCCATTTCCTGCTTGGATCAACTACTCTTTACAGCTT |                    |              |
| 1050 | TTCCATTTCCTGCTTGGATCAACTACTCTTTACAGCTT |                    |              |
| 827  | TTCCATTTCCTGCTTGGATCAACTACTC           |                    | TACAGCTT     |
| 820  | TTCCATTTCCTGCTTGGATCAACTACTCTTTACAGCTT |                    |              |
|      | 1130                                   | 1140               | 1150         |
| 1118 | GATCCACCCGAAGAGGAGAGGTATATCTTCCAACACC  |                    |              |
| 1119 | GATCCACCCGAAGAGGAGAGGTATATCTTCCAACACC  |                    |              |
| 1120 | GATCCACCCGAAGAGGAGAGGTATATCTTCCAACACC  |                    |              |
| 895  | GATCCACCCGAAGAGGAGAGGTATATCTTCCAACACC  |                    |              |
| 890  | GATCCACCCGAAGAGGAGAGGTAT               |                    | TCTTCCAACACC |
|      | 1200                                   | 1210               | 1220         |
| 1188 | ATGAATCTCATATTGGAATGAGTAGTCCGGAGCCTAA  |                    |              |
| 1189 | ATGAATCTCATATTGGAATGAGTAGTCCGGAGCCTAA  |                    |              |
| 1190 | ATGAATCTCATATTGGAATGAGTAGTCCGGAGCCTAA  |                    |              |
| 965  | ATGAATCTCATATTGGAATGAGTAGTCCGGAGCCTAA  |                    |              |
| 960  | ATGAATCTCATATTGGAATGAGTAGTCCGGAGCCTAA  |                    |              |
|      | 1270                                   | 1280               | 1290         |
| 1258 | TCTTCCTCGCATAAAAAA                     | GCTTGGGTACAATGCGCT |              |
| 1259 | TCTTCCTCGCATAAAAAA                     | GCTTGGGTACAATGCGCT |              |
| 1260 | TCTTCCTCGCATAAAAAA                     | GCTTGGGTACAATGCGCT |              |
| 1035 | TCTTCCTCGCATAAAAAA                     | GCTTGGGTACAATGCGCT |              |
| 1030 | TCTTCCTCGCATAAAAAA                     | GCTTGGGTACAATGCGCT |              |
|      | 1340                                   | 1350               | 1360         |
| 1328 | TGCTAGTTTTGGTTATCATGTCACAAATTTTTTTTGCA |                    |              |
| 1328 | TGCTAGTTTTGGTTATCATGTCACAAATTTTTTTTGCA |                    |              |
| 1329 | CGCTAGTTTTGGTTATCATGTCACAAATTTTTTTTGCA |                    |              |
| 1104 | TGCTAGTTTTGGTTATCATGTCACAAATTTTTTTTGCA |                    |              |
| 1099 | TGCTAGTTTTGGTTATCATGTCACAAATTTTTTTTGCA |                    |              |

Fig.10  
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Fig.10 SHEET 7

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| 1090                              | 1100 | 1110 | 1120            |
|-----------------------------------|------|------|-----------------|
| CCTGATGAAATTCCATATAATGGAATATATTAT |      |      | 10con. seq      |
| CCTGATGAAATTCCATATAATGGAATATATTAT |      |      | 11con. seq      |
| CCTGATGAAATTCCATATAATGGAATACATTAT |      |      | 19con. seq      |
| CCTGATGAAATTCCATATAATGGAATATATTAT |      |      | 86CON. SEQ      |
| CCTGATGAAATTCCATATAATGGAATATATTAT |      |      | pcrsbe2con. seq |

| 1160                              | 1170 | 1180 | 1190           |
|-----------------------------------|------|------|----------------|
| CACGGCCAAAGAAACCAAAGTCGCTGAGAATAT |      |      | 10con. seq     |
| CACGGCCAAAGAAACCAAAGTCGCTGAGAATAT |      |      | 11con. seq     |
| CACGGCCAAAGAAACCAAAGTCGCTGAGAATAT |      |      | 19con. seq     |
| CACGGCCAAAGAAACCAAAGTCGCTGAGAATAT |      |      | 86CON. SEQ     |
| CACGGCCAAAGAAACCAAAGTCGCTGAGAATAT |      |      | pcrsbe2con seq |

| 1230                               | 1240 | 1250 | 1260            |
|------------------------------------|------|------|-----------------|
| AATTAAC TCATACGTGAATTTTAGAGATGAAGT |      |      | 10con. seq      |
| AATTAAC TCATACGTGAATTTTAGAGATGAAGT |      |      | 11con. seq      |
| AATTAAC TCATACGTGAATTTTAGAGATGAAGT |      |      | 19con. seq      |
| AATTAAC TCATACGTGAATTTTAGAGATGAAGT |      |      | 86CON. SEQ      |
| AATTAAC TCATACGTGAATTTTAGAGATGAAGT |      |      | pcrsbe2con. seq |

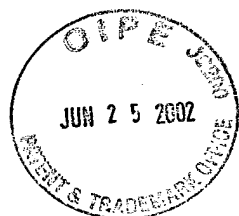
| 1300                              | 1310 | 1320 | 1330            |
|-----------------------------------|------|------|-----------------|
| GCAAATTATGGCTATTCAAGAGCATTCTTATTA |      |      | 10con. seq      |
| GCGAATTATGGCTATTCAAGAGCATTCTTATTA |      |      | 11con. seq      |
| GCAAATTATGGCTATTCAAGAGCATTCTTATTA |      |      | 19con. seq      |
| GCAAATTATGGCTATTCAAGAGCATTCTTATTA |      |      | 86CON. SEQ      |
| GCAAATTATGGCTATTCAAGAGCATTCTTATTA |      |      | pcrsbe2con. seq |

| 1370                              | 1380 | 1390 | 1400            |
|-----------------------------------|------|------|-----------------|
| CCAAGCAGCCGTTTTGGAACGCCCGACGACCTT |      |      | 10con. seq      |
| CCAAGCAGCCGTTTTGGAACGCCCGACGACCTT |      |      | 11con. seq      |
| CCAAGCAGCCGTTTTGGAACGCCCGACGACCTT |      |      | 19con. seq      |
| CCAAGCAGCCGTTTTGGAACGCCCGACGACCTT |      |      | 86CON. SEQ      |
| CCAAGCAGCCGTTTTGGAACGCCCGACGACCTT |      |      | pcrsbe2con. seq |

Fig. 10 SHEET 8

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|      | 1410                                  | 1420 | 1430 |
|------|---------------------------------------|------|------|
| 1398 | AAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTG |      |      |
| 1398 | AAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTG |      |      |
| 1399 | AAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTG |      |      |
| 1174 | AAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTG |      |      |
| 1169 | AAGTCTTTGATTGATAAAGCTCATGAGCTAGGAATTG |      |      |
|      | 1480                                  | 1490 | 1500 |
| 1468 | CAAATAATACTTTAGATGGACTGAACATGTTTGACGG |      |      |
| 1468 | CAAATAATACTTTAGATGGACTGAACATGTTTGACGG |      |      |
| 1469 | CAAATAATACTTTAGATGGACTGAACATGTTTGACGG |      |      |
| 1244 | CAAATAATACTTTAGATGGACTGAACATGTTTGACGG |      |      |
| 1239 | CAAATAATACTTTAGATGGACTGAACATGTTTGACGG |      |      |
|      | 1550                                  | 1560 | 1570 |
| 1538 | TGGTTATCATTGGATGTGGGATTCCGCCTCTTTAAC  |      |      |
| 1538 | TGGTTATCATTGGATGTGGGATTCCGCCTCTTTAAC  |      |      |
| 1539 | TGGTTATCATTGGATGTGGGATTCCGCCTCTTTAAC  |      |      |
| 1314 | TGGTTATCATTGGATGTGGGATTCCGCCTCTTTAAC  |      |      |
| 1309 | TGGTTATCATTGGATGTGGGATTCCGCCTCTTTAAC  |      |      |
|      | 1620                                  | 1630 | 1640 |
| 1608 | TCAAATGCGAGATGGTGGTTGGATGAGTTCAAATTTG |      |      |
| 1607 | TCAAATGCGAGATGGTGGTTGGATGAGTTCAAATTTG |      |      |
| 1609 | TCAAATGCGAGATGGTGGTTGGATGAGTTCAAATTTG |      |      |
| 1384 | TCAAATGCGAGATGGTGGTTGGATGAGTTCAAATTTG |      |      |
| 1379 | TCAAATGCGAGATGGTGGTTGGATGAGTTCAAATTTG |      |      |
|      | 1690                                  | 1700 | 1710 |
| 1678 | TGTACTCACCACGGATTATCGGTGGGATTCACTGG   |      |      |
| 1677 | TGTATACTCACCACGGATTATCGGTGGGATTCACTGG |      |      |
| 1679 | TGTATACTCACCACGGATTATCGGTGGGATTCACTGG |      |      |
| 1454 | TGTATACTCACCACGGATTATCGGTGGGATTCACTGG |      |      |
| 1449 | TGTATACTCACCACGGATTATCGGTGGGATTCACTGG |      |      |

Fig. 10  
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Fig. 10 SHEET 9

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| 1440                 | 1450              | 1460            | 1470 |  |
|----------------------|-------------------|-----------------|------|--|
| TTGTTCTCATGGACATTGTT | CACAGCCATGCAT     | 10con. seq      |      |  |
| TTGTTCTCATGGACAT     | GTTTCACAGCCATGCAT | 11con. seq      |      |  |
| TTGTTCTCATGGACATTGTT | CACAGCCATGCAT     | 19con. seq      |      |  |
| TTGTTCTCATGGACATTGTT | CACAGCCATGCAT     | 86CON. SEQ      |      |  |
| TTGTTCTCATGGACATTGTT | CACAGCCATGCAT     | pcrsbe2con. seq |      |  |

| 1510                              | 1520 | 1530            | 1540 |  |
|-----------------------------------|------|-----------------|------|--|
| CACAGATAGTTGTTACTTTCACTCTGGAGCTCG |      | 10con. seq      |      |  |
| CACCGATAGTTGTTACTTTCACTCTGGAGCTCG |      | 11con. seq      |      |  |
| CACCGATAGTTGTTACTTTCACTCTGGAGCTCG |      | 19con. seq      |      |  |
| CACCGATAGTTGTTACTTTCACTCTGGAGCTCG |      | 86CON. SEQ      |      |  |
| CACAGATAGTTGTTACTTTCACTCTGGAGCTCG |      | pcrsbe2con. seq |      |  |

| 1580                              | 1590 | 1600            | 1610 |  |
|-----------------------------------|------|-----------------|------|--|
| TATGGAAACTGGGAGGTACTTAGGTATCTTCTC |      | 10con. seq      |      |  |
| TATGGAAACTGGGAGGTACTTAGGTATCTTCTC |      | 11con. seq      |      |  |
| TATGGAAACTGGGAGGTACTTAGGTATCTTCTC |      | 19con. seq      |      |  |
| TATGGAAACTGGGAGGTACTTAGGTATCTTCTC |      | 86CON. SEQ      |      |  |
| TATGGAAACTGGGAGGTACTTAGGTATCTTCTC |      | pcrsbe2con. seq |      |  |

| 1650                              | 1660 | 1670            | 1680 |  |
|-----------------------------------|------|-----------------|------|--|
| ATGGATTTAGATTTGATGGTGTGACATCAATGA |      | 10con. seq      |      |  |
| ATGGATTTAGATTTGATGGTGTGACATCAATGA |      | 11con. seq      |      |  |
| ATGGATTTAGATTTGATGGTGTGACATCAATGA |      | 19con. seq      |      |  |
| ATGGATTTAGATTTGATGGTGTGACATCAATGA |      | 86CON. SEQ      |      |  |
| ATGGATTTAGATTTGATGGTGTGACATCAATGA |      | pcrsbe2con. seq |      |  |

| 1720                              | 1730 | 1740            | 1750 |  |
|-----------------------------------|------|-----------------|------|--|
| GAACTACGAGGAATACTTTGGACTCGCAACTGA |      | 10con. seq      |      |  |
| GAACTACGAGGAATACTTTGGACTCGCAACTGA |      | 11con. seq      |      |  |
| GAACTACGAGGAATACTTTGGACTCGCAACTGA |      | 19con. seq      |      |  |
| GAACTACGAGGAATACTTTGGACTCGCAACTGA |      | 86CON. SEQ      |      |  |
| GAACTACGAGGAATACTTTGGACTCGCAACTGA |      | pcrsbe2con. seq |      |  |

Fig. 10 SHEET 10



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|      | 1760                                   | 1770 | 1780 |
|------|--|------|------|
| 1748 | TGTGGATGCTGTTGTGTATCTGATGCTGGTCAACGAT  |      |      |
| 1747 | TGTGGATGCTGTTGTGTATCTGATGCTGGTCAACGAT  |      |      |
| 1749 | TGTGGATGCTGTTGTGTATCTGATGCTGGTCAACGAT  |      |      |
| 1524 | TGTGGATGCTGTTGTGTATCTGATGCTGGTCAACGAT  |      |      |
| 1519 | TGTGGATGCTGTTGTGTATCTGATGCTGGTCAACGAT  |      |      |
|      | 1830                                   | 1840 | 1850 |
| 1818 | ATTGGTGAAGATGTTAGCGGAATGCCGACATTTTGTG  |      |      |
| 1817 | ATTGGTGAAGATGTTAGCGGAATGCCGACATTTTGTG  |      |      |
| 1819 | ATTGGTGAAGATGTTAGCGGAATGCCGACATTTTGTG  |      |      |
| 1594 | ATTGGTGAAGATGTTAGCGGAATGCCGACATTTTGTG  |      |      |
| 1589 | ATTGGTGAAGATGTTAGCGGAATGCCGACATTTTGTG  |      |      |
|      | 1900                                   | 1910 | 1920 |
| 1888 | ATCGGCTGCATATGGCAATTGCTGATAAATGGATTGA  |      |      |
| 1887 | ATCGGCTGCATATGGCAATTGCTGATAAATGGATTGA  |      |      |
| 1889 | ATCGGCTGCATATGGCAATTGCTGATAAATGGATTGA  |      |      |
| 1664 | ATCGGCTGCATATGGCAATTGCTGATAAATGGATTGA  |      |      |
| 1659 | ATCGGCTGCATATGGCAATTGCTGATAAATGGATTGA  |      |      |
|      | 1970                                   | 1980 | 1990 |
| 1958 | GGGTGATATTGTTTCATACACTGACAAATAGAAGATGG |      |      |
| 1957 | GGGTGATATTGTTTCATACACTGACAAATAGAAGATGG |      |      |
| 1959 | GGGTGATATTGTTTCATACACTGACAAATAGAAGATGG |      |      |
| 1734 | GGGTGATATTGTTTCATACACTGACAAATAGAAGATGG |      |      |
| 1729 | GGGTGATATTGTTTCATACACTGACAAATAGAAGATGG |      |      |
|      | 2040                                   | 2050 | 2060 |
| 2028 | GATCAAGCTCTAGTCGGTGATAAAACTATAGCATTCT  |      |      |
| 2027 | GATCAAGCTCTAGTCGGTGATAAAACTATAGCATTCT  |      |      |
| 2029 | GATCAAGCTCTAGTCGGTGATAAAACTATAGCATTCT  |      |      |
| 1804 | GATCAAGCTCTAGTCGGTGATAAAACTATAGCATTCT  |      |      |
| 1799 | GATCAAGCTCTAGTCGGTGATAAAACTATAGCATCT   |      |      |

Fig.10  
Sheet 12

Fig. 10 SHEET 11

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|                                    |                 |      |      |  |
|------------------------------------|-----------------|------|------|--|
| 1790                               | 1800            | 1810 | 1820 |  |
| CTTATTTCATGGGCTTTTCCCAGATGCAATTACC | 10con. seq      |      |      |  |
| CTTATTTCATAGGCTTTTCCCAGATGCAATTACC | 11con. seq      |      |      |  |
| CTTATTTCATGGGCTTTTCCCAGATGCAATTACC | 19con. seq      |      |      |  |
| CTTATTTCATGGGCTTTTCCCAGATGCAATTACC | 86CON. SEQ      |      |      |  |
| CTTATTTCAGGGGCTTTTCCCAGATGCAATTACC | pcrsbe2con. seq |      |      |  |
| 1860                               | 1870            | 1880 | 1890 |  |
| TTCCCGTTCAAGATGGGGGTGTTGGCTTTGACT  | 10con. seq      |      |      |  |
| TTCCCGTTCAAGATGGGGGTGTTGGCTTTGACT  | 11con. seq      |      |      |  |
| TTCCCGTTCAAGAAGGGGGGTGTTGGCTTTGACT | 19con. seq      |      |      |  |
| TTCCCGTTCAAGATGGGGGTGTTGGCTTTGACT  | 86CON. SEQ      |      |      |  |
| TTCCCGTTCAAGATGGGGGTGTTGGCTTTGACT  | pcrsbe2con. seq |      |      |  |
| 1930                               | 1940            | 1950 | 1960 |  |
| GTTGCTCAAGAAACGGGATGAGGATTGGAGAGT  | 10con. seq      |      |      |  |
| GTTGCTCAAGAAACGGGATGAGGATTGGAGAGT  | 11con. seq      |      |      |  |
| GTTGCTCAAGAAACGGGATGAGGATTGGAGAGT  | 19con. seq      |      |      |  |
| GTTGCTCAAGAAACGGGATGAGGATTGGAGAGT  | 86CON. SEQ      |      |      |  |
| GTTGCTCAAGAAACGGGATGAGGATTGGAGAGT  | pcrsbe2con. seq |      |      |  |
| 2000                               | 2010            | 2020 | 2030 |  |
| TCGGAAAAGTGTGTTTCATACGCTGAAAGTCAT  | 10con. seq      |      |      |  |
| TCGGAAAAGTGTGTTTCATACGCTGAAAGTCAT  | 11con. seq      |      |      |  |
| TCGGAAAAGTGTGTTTCATACGCTGAAAGTCAT  | 19con. seq      |      |      |  |
| TCGGAAAAGTGTGTTTCATACGCTGAAAGTCAT  | 86CON. SEQ      |      |      |  |
| TCGGAAAAGTGTGTTTCATMCGCTGAAAGTCAT  | pcrsbe2con. seq |      |      |  |
| 2070                               | 2080            | 2090 | 2100 |  |
| GGCTGATGGACAAGGATATGTATGATTTTATGG  | 10con. seq      |      |      |  |
| GGCTGATGGACAAGGATATGTATGATTTTATGG  | 11con. seq      |      |      |  |
| GGCTGATGGACAAGGATATGTATGATTTTATGG  | 19con. seq      |      |      |  |
| GGCTGATGGACAAGGATATGTATGATTTTATGG  | 86CON. SEQ      |      |      |  |
| GGCTGATGGACAAGGATATGTATGATTTTATGG  | pcrsbe2con. seq |      |      |  |

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|      | 2110                                   | 2120 | 2130 |
|------|--|------|------|
| 2098 | CTCTGGATAGACCGTCAACATCATTAAATAGATCGTGG |      |      |
| 2097 | CTCTGGATAGACCGTCAACATCATTAAATAGATCGTGG |      |      |
| 2099 | CTCTGGATAGACCGTCAACATCATTAAATAGATCGTGG |      |      |
| 1874 | CTCTGGATAGACCGTCAACATCATTAAATAGATCGTGG |      |      |
| 1869 | CTCTGGATAGACCGTCAACATCATTAAATAGATCGTGG |      |      |
|      | 2180                                   | 2190 | 2200 |
| 2168 | TATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG |      |      |
| 2167 | TATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG |      |      |
| 2169 | TATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG |      |      |
| 1944 | TATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG |      |      |
| 1939 | TATGGGATTAGGAGGAGAAGGGTACCTAAATTTTCATG |      |      |
|      | 2250                                   | 2260 | 2270 |
| 2238 | TTCCCTAGGGCTGAACAACACCTCTCTGATGGCTCAG  |      |      |
| 2237 | TTCCCTAGGGCTGAACAACACCTCTCTGATGGCTCAG  |      |      |
| 2239 | TTCCCTAGGGCTGAACAACACCTCTCTGATGGCTCAG  |      |      |
| 2014 | TTCCCTAGGGCTGAACAACACCTCTCTGATGGCTCAG  |      |      |
| 2009 | TTCCCTAGGGCTGAACAACACCTCTCTGATGGCTCAG  |      |      |
|      | 2320                                   | 2330 | 2340 |
| 2308 | GCAGACGGAGATTTGACCTGGGAGATGCAGAATATTT  |      |      |
| 2307 | GCAGACGGAGATTTGACCTGGGAGATGCAGAATATTT  |      |      |
| 2309 | GCAGACGGAGATTTGACCTGGGAGATGCAGAATATTT  |      |      |
| 2084 | GCAGACGGAGATTTGACCTGGGAGATGCAGAATATTT  |      |      |
| 2079 | GCAGACGGAGATTTGACCTGGGAGATGCAGAATATTT  |      |      |
|      | 2390                                   | 2400 | 2410 |
| 2378 | TATGCAGTATCTTGAAGATAAATATGAGTTTATGACT  |      |      |
| 2377 | TATGCAGTATCTTGAAGATAAATATGAGTTTATGACT  |      |      |
| 2379 | TATGCAGTATCTTGAAGATAAATATGAGTTTATGACT  |      |      |
| 2154 | TATGCAGTATCTTGAAGATAAATATGAGTTTATGACT  |      |      |
| 2149 | TATGCAGTATCTTGAAGATAAATATGAGTTTATGACT  |      |      |

Fig.10  
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Fig. 10 SHEET 13



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| 2140      | 2150 | 2160                     | 2170 |                 |
|-----------|------|--------------------------|------|-----------------|
| GATAGCATT | A    | CACAAGATGATTAGGCTTGTAAC  |      | 10con. seq      |
| GATAGCATT | T    | GCACAAGATGATTAGGCTTGTAAC |      | 11con. seq      |
| GATAGCATT | T    | GCACAAGATGATTAGGCTTGTAAC |      | 19con. seq      |
| GATAGCATT | T    | GCACAAGATGATTAGGCTTGTAAC |      | 86CON. SEQ      |
| GATAGCATT | T    | GCACAAGATGATTAGGCTTGTAAC |      | pcrsbe2con. seq |

| 2210        | 2220                    | 2230 | 2240 |                 |
|-------------|-------------------------|------|------|-----------------|
| GGAAATGAATT | TCGGCCACCCTGAGTGGATTGAT |      |      | 10con. seq      |
| GGAAATGAATT | TCGGCCACCCTGAGTGGATTGAT |      |      | 11con. seq      |
| GGAAATGAATT | TCGGCCACCCTGAGTGGATTGAT |      |      | 19con. seq      |
| GGAAATGAATT | TCGGCCACCCTGAGTGGATTGAT |      |      | 86CON. SEQ      |
| GGAAATGAATT | TCGGCCACCCTGAGTGGATTGAT |      |      | pcrsbe2con. seq |

| 2280     | 2290 | 2300                      | 2310 |                 |
|----------|------|---------------------------|------|-----------------|
| TAATTCCC | A    | AGAAACCAATTCAGTTATGATAAAT |      | 10con. seq      |
| TAATTCCC | G    | AGAAACCAATTCAGTTATGATAAAT |      | 11con. seq      |
| TAATTCCC | G    | AGAAACCAATTCAGTTATGATAAAT |      | 19con. seq      |
| TAATTCCC | G    | AGAAACCAATTCAGTTATGATAAAT |      | 86CON. SEQ      |
| TAATTCCC | G    | AGAAACCAATTCAGTTATGATAAAT |      | pcrsbe2con. seq |

| 2350                              | 2360 | 2370 | 2380 |                 |
|-----------------------------------|------|------|------|-----------------|
| AAGATACCGTGGGTTGCAAGAATTTGACCGGGC |      |      |      | 10con. seq      |
| AAGATACCGTGGGTTGCAAGAATTTGACCGGGC |      |      |      | 11con. seq      |
| AAGATACCGTGGGTTGCAAGAATTTGACCGGGC |      |      |      | 19con. seq      |
| AAGATACCGTGGGTTGCAAGAATTTGACCGGGC |      |      |      | 86CON. SEQ      |
| AAGATACCGTGGGTTGCAAGAATTTGACCGGGC |      |      |      | pcrsbe2con. seq |

| 2420                              | 2430 | 2440 | 2450 |                 |
|-----------------------------------|------|------|------|-----------------|
| TCAGAACACCAGTTCATATCACGAAAGGATGAA |      |      |      | 10con. seq      |
| TCAGAACACCAGTTCATATCACGAAAGGATGAA |      |      |      | 11con. seq      |
| TCAGAACACCAGTTCATATCACGAAAGGATGAA |      |      |      | 19con. seq      |
| TCAGAACACCAGTTCATATCACGAAAGGATGAA |      |      |      | 86CON. SEQ      |
| TCAGAACACCAGTTCATATCACGAAAGGATGAA |      |      |      | pcrsbe2con. seq |

Fig. 10 SHEET 14



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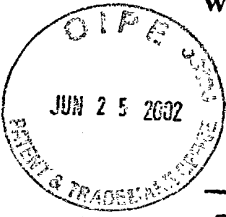
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|      | 2460  | 2470 | * 2480 |
|------|---|------|--------|
| 2448 | GGAGATAGGATGATTGTATTTGAAAAAGGAAACCTAG                   |      |        |
| 2447 | GGAGATAGGATGATTGTATTTGAAA <b>G</b> AGGAAACCTAG          |      |        |
| 2449 | GGAGATAGGATGATTGTATTTGAAAAAGGAAACCTAG                   |      |        |
| 2224 | GGAGATAGGATGATTGTATTTGAAAAAGGAAACCTAG                   |      |        |
| 2219 | GGAGATAGGATGATTGTATTTGAAA <b>R</b> AGGAAACCTAG          |      |        |
|      |   |      | *      |
|      | 2530  | 2540 | 2550   |
| 2518 | ATTCAGACTATCGCATAGGCTGCCTGAAGCCTGGAAA                   |      |        |
| 2517 | ATTCAGACTATCGCATAGGCTGCCTGAAGCCTGGAAA                   |      |        |
| 2519 | ATTCAGACTATCGCATAG <b>C</b> CTGCCTGAAGCCTGGAAA          |      |        |
| 2294 | ATTCAGACTATCGCATAGGCTGCCTGAAGCCTGGAAA                   |      |        |
| 2289 | ATTCAGACTATCGCATAGGCTGCCTGAAGCCTGGAAA                   |      |        |
|      | 2600  | 2610 | 2620   |
| 2588 | TTTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAA                   |      |        |
| 2587 | TTTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAA                   |      |        |
| 2589 | TTTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAA                   |      |        |
| 2364 | TTTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAA                   |      |        |
| 2359 | TTTTGGTGGCTTCGGGAGAATTGATCATAATGCCGAA                   |      |        |
|      | 2670  | 2680 | * 2690 |
| 2658 | CCTCGTTCAATTATGGTGTATGCACCTAGTAGAACAG                   |      |        |
| 2657 | CCT <b>I</b> GTTCAATTATGGTGTATGCACCTAGTAGAACAG          |      |        |
| 2659 | CCTCGTTCAATTATGGTGTATGCACCT <b>I</b> GTAA <b>A</b> ACAG |      |        |
| 2434 | CCTCGTTCAATTATGGTGTATGCACCT <b>I</b> GTAGAACAG          |      |        |
| 2429 | CCTCGTTCAATTATGGTGTATGCACCTAGTAGAACAG                   |      |        |
|      |   |      | *      |
|      | 2740  | 2750 | 2760   |
| 2722 | -----AAGAAGAAGAAGAAGAAGAAGTAGCAGTAGT                    |      |        |
| 2722 | ----- <b>-----</b> AGAAGTAGCAGTAGT                      |      |        |
| 2729 | AAGAAGAAGAAGAAGAAGAAGAAGAAGTAGCAG <b>C</b> AGT          |      |        |
| 2501 | AAGAAGAAGAAGAAGAAGAAGAAGAAGTAGCAGTAGT                   |      |        |
| 2499 | <b>N</b> AGAAGAAGAAGAAG <b>A</b> N-----                 |      |        |

Fig. 10  
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Fig. 10 SHEET 15

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|                                   |       |       |   |      |                 |
|-----------------------------------|-------|-------|---|------|-----------------|
| 2490                              | 2500  | 2510  | * | 2520 |                 |
| TTTTTGTCTTTAATTTTCACTGGACAAAAGGCT |       |       |   |      | 10con. seq      |
| TTTTTGTCTTTAATTTTCACTGGACAAATAGCT |       |       |   |      | 11con. seq      |
| TTTTTGTCTTTAATTTTCACTGGACAAAAGCT  |       |       |   |      | 19con. seq      |
| TTTTTGTCTTTAATTTTCACTGGACAAAAGCT  |       |       |   |      | 86CON. SEQ      |
| TTTTTGTCTTTAATTTTCACTGGACAAATAGCT |       |       |   |      | pcrsbe2con. seq |
| *                                 |       |       |   |      |                 |
| 2560                              | 2570  | 2580  |   | 2590 |                 |
| ATACAAGGTTGCCTTGGACTCAGATGATCCACT |       |       |   |      | 10con. seq      |
| ATACAAGGTTGCTTGGACTCAGATGATCCACT  |       |       |   |      | 11con. seq      |
| ATACAAGGTTGCCTTGGACTCAGATGATCCACT |       |       |   |      | 19con. seq      |
| ATACAAGGTTGCCTTGGACTCAGATGATCCACT |       |       |   |      | 86CON. SEQ      |
| ATACAAGGTTGCTTGGACTCAGATGATCCACT  |       |       |   |      | pcrsbe2con. seq |
| 2630                              | *2640 | *2650 |   | 2660 |                 |
| TATTTACCTTTGAAGGATGGTATGATGATCGT  |       |       |   |      | 10con. seq      |
| TATTTACCTCTGAAGGATCGTATGATGATCGT  |       |       |   |      | 11con. seq      |
| TATTTACCTTTGAAGGATGGTATGATGATCGT  |       |       |   |      | 19con. seq      |
| TATTTACCTTTGAAGGATGGTATGATGATCGT  |       |       |   |      | 86CON. SEQ      |
| TATTTACCTCTGAAGGATCGTATGATGATCGT  |       |       |   |      | pcrsbe2con. seq |
| *                                 |       |       |   |      |                 |
| 2700                              | 2710  | 2720  |   | 2730 |                 |
| CAGTGGTCTATGCACTAGTAGACAAAG----   |       |       |   |      | 10con. seq      |
| CAGTGGTCTATGCACTAGTAGACAAACT----- |       |       |   |      | 11con. seq      |
| CAGTGGTCTATGCACTAGTAGACAAAGAAGAAG |       |       |   |      | 19con. seq      |
| CAGTGGTCTATGCACTAGTAGACAAAG--AAG  |       |       |   |      | 86CON. SEQ      |
| CAGTGGTCTATGCACTAGTAGACAAANTAGAAG |       |       |   |      | pcrsbe2con. seq |
| 2770                              | 2780  | 2790  |   | 2800 |                 |
| AGAAGAAGTAGTAGTAGAAGAAGAATGAACGAA |       |       |   |      | 10con. seq      |
| AGAAGAACTTCTG-----AAGAATGAACGAA   |       |       |   |      | 11con. seq      |
| AGAAGAAGTAGTAGTAGAAGAAGAATGAACGAA |       |       |   |      | 19con. seq      |
| AGAAGAAGTAGTAGTAGAAGAAGAATGAACGAA |       |       |   |      | 86CON. SEQ      |
| -----CCGNNGAAGAAT-----            |       |       |   |      | pcrsbe2con. seq |

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|      | 2810                          | 2820      | 2830 |
|------|-------------------------------|-----------|------|
| 2786 | CTTGTGATCGCGTTGAAAGATTTGAACGC | CACATAGA  |      |
| 2764 | CTTGTGATCGCGTTGAAAGATTTGAACG  | TAC       | TGG- |
| 2799 | CTTGTGATCGCGTTGAAAGATTTGAACG  | CTACATAGA |      |
| 2571 | CTTGTG                        |           |      |
| 2529 | -----                         |           |      |

|      | 2880                       | 2890         | 2900         |
|------|----------------------------|--------------|--------------|
| 2856 | CTTGGCGGAATTTTCATGTGACAACA | -GGTTTGCAATT |              |
| 2829 | CTTGGCGGAATTT              | CATGTGACAACA | AGGTTTGCACTT |
| 2869 | CTTGGCGGAATTTTCATGTGACA    | CAA          | -GGTTTGCAATT |
| 2576 |                            |              |              |
| 2529 | -----                      |              |              |

|      | 2950                 | 2960              | 2970 |
|------|----------------------|-------------------|------|
| 2925 | GAGATGAAGTGCTGAACAAA | ACATATGTAAAATCGA  |      |
| 2899 | GAGATGAAGTGCTGAACAAA | --CATATGTAAAATCGA |      |
| 2938 | GAGATGAAGTGCTGAACAAA | --CATATGTAAAATCGA |      |
| 2576 |                      |                   |      |
| 2529 | -----                |                   |      |

|      | 3020         | 3030                   |
|------|--------------|------------------------|
| 2995 | CCTGCAG----- | CC                     |
| 2967 | CCTGCAG----- | CC                     |
| 3006 | CCTGCAG      | GCCCCGGGGACCCCTTAGTTCT |
| 2576 |              |                        |
| 2529 | -----        | -T                     |

Fig.10  
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Fig. 10 SHEET 17

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|                                   |       |                 |      |  |
|-----------------------------------|-------|-----------------|------|--|
| 2840                              | 2850  | 2860            | 2870 |  |
| GCTTCTTGACGTATCTGGCAATATTGCAT     | 11AGT | 10con. seq      |      |  |
| --TCATCCACATA--GAGCTTCTTGACATCAGT |       | 11con. seq      |      |  |
| GCTTCTTGACGTATCTGGCAATATTGCATCAGT |       | 19con. seq      |      |  |
|                                   |       | 86CON. SEQ      |      |  |
|                                   |       | pcrsbe2con. seq |      |  |
| 2910                              | 2920  | 2930            | 2940 |  |
| CTTTCCACTATTAGTAGTGCAACGATATACGCA |       | 10con. seq      |      |  |
| CTTTCCACTATTAGTAGTGCAACGATATACGCA |       | 11con. seq      |      |  |
| CTTTCCACTATTAGTAGTGCAACGATATACGCA |       | 19con. seq      |      |  |
|                                   |       | 86CON. SEQ      |      |  |
|                                   |       | pcrsbe2con. seq |      |  |
| 2980                              | 2990  | 3000            | 3010 |  |
| TGAATTTATGTCGAATGCTGGGACGATCGAATT |       | 10con. seq      |      |  |
| TGAATTTATGTCGAATGCTGGGACGATCGAATT |       | 11con. seq      |      |  |
| TGAATTTATGTCGAATGCTGGGACGATCGAATT |       | 19con. seq      |      |  |
|                                   |       | 86CON. SEQ      |      |  |
|                                   |       | pcrsbe2con. seq |      |  |
|                                   |       | 10con. seq      |      |  |
|                                   |       | 11con. seq      |      |  |
|                                   |       | 19con. seq      |      |  |
|                                   |       | 86CON. SEQ      |      |  |
|                                   |       | pcrsbe2con. seq |      |  |

Fig. 10 SHEET 18

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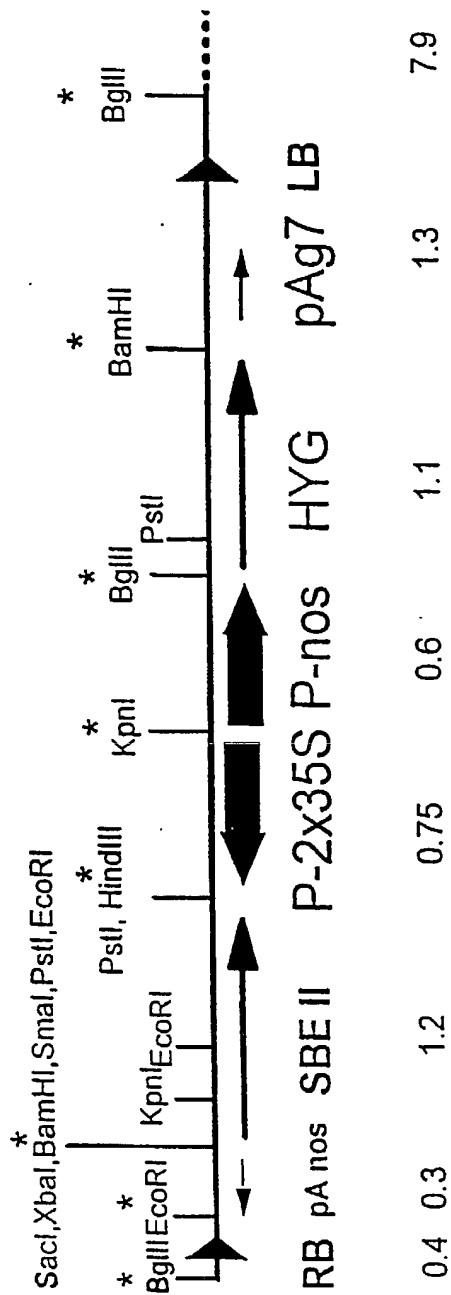
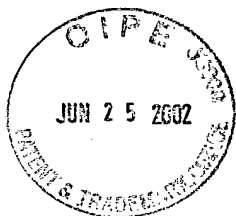
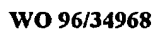


Fig. 11





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Nco I  
BstX I  
.....

TCATTAAGAGGAGAAATTAACCTATGAGAGGATCTCACCATCACCATCACCATGGGATCT  
 AGTAATTTCTCCTCTTTAATTGATACTCTCTAGAGTGGTAGTGGTAGTACCCCTAGA  
 M R G S H H H H H H H G I

# EcoRI

TTGGCTGAAAGTCTTCTTACAAATCCGAATTCGACCTTCTACAGTTGCAGCATCGGGA  
ACCGACTTTTCAGAAGAAATGTTAAGGCTTAAGGCTGGAAGATGTCAAGTCGTAGCCCT  
L A E K S S Y N S E F R P S T V A A S G

AAGTCTCTGTGCCTGGAACCCAGAGTGATAGCTCCTCATCTCAACAAACCAATTTGAGT  
 TTCAGGAACACGGACCTTGGGTCTCACTATCGAGGAGTAGGAGTTGTTGGTTAAACTCA  
 K V L V P G T Q S D S S S S T N Q F E

TCAC TGAG ACATCTCCAG AAAATTC CCAGCATCAACTGATGATAGTAGTTCAACAATGG  
AGTGACTCTGTAGAGGTC TTTAAGGGGTCGTAGTTGACTACATCTATCAAGTTGTTACC  
F T E T S P E N S P A S T D V D S S T M 240

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Fig.12  
SHEET 2

AACACGCTAGCCAGATTAAAACTGAGAACGATGACGTTGAGCCGTC AAGTGATCTTACAG  
TTGTGCGATCGGTCTAATTTTGACTCTTTGCTACTGCAACTCGGCAGTTCACTAGAAATGTC  
E H A S Q I K T E N D D V E P S S D L T 300

GAAGTGTGAAGAGCTGGATTTTGCTTCACTACACTACAAGAAGGTGGTAAACTGG  
CTTCACAACCTTCGACCTAAACGAAGTAGTGATGTTGATGTTCTTCCACCATTGACC  
G S V E E L D F A S S L Q L Q E G G K L 360

AGGAGTCTAAACATTAACTACTTCTGAAGAGACAAATTATTGATGAATCTGATAGATCA  
TCCTCAGATTTTGTAATTTATGAAGACTTCTCTGTTAATAACTACTTAGACTATCCTAGT  
E E S K T L N T S E E T I I D E S D R I 420

GAGAGAGGGGCATCCCTCCACCTGGACTTGGTCAGAAGATTATGAATAGACCCCTTT  
CTCTCTCCCGTAGGGAGGTGGACCTGAACCAGTCTTCTAAATACTTTATCTGGGGGAAA  
R E R G I P P P G L G Q K I Y E I D P L 480

Hinc II

TGACAAACTATCGTCAACACCTTGATTACAGGTATTCACAGTACAAGAACTGAGGGAGG  
ACTGTTTGATAGCAGTTGTGGAACCTAATGTCCATAAGTGTCATGTTCTTTGACTCCCTCC  
L T N Y R Q H L D Y R Y S Q Y K K L R E 540

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Fig 12  
SHEET 3

Hind III

CAATTGACAAGTATGAGGTGGTTTGGGAAGCTTTTCTCGTGGTTATGAAAAATGGGTT  
GTTAACTGTTTACTCTCCACCAACCTTCGAAAAAGACCAATACTTTTACCCAA  
A I D K Y E G G L E A F S R G Y E K M G

Pvu II

TCACTCGTAGTGCTACAGGTATCACTTACCGTGAGTGGGCTCCTGGTGCCAGTCAGCTG  
AGTGAGCATCAGGATGTCCATAGTGAATGGCACTCACCCGAGGACCACGGGTCAGTCGAC  
F T R S A T G I T Y R E W A P G A Q S A

CCCTCATTGGAGATTICAACAATTGGGACGCAAAATGCTGACATTATGACTCGGAATGAAT  
GGGAGTAACCTCTAAAGTTGTTAACCCTGCGTTTACGACTGTAATACTGAGCCTTACTTA  
A L I G D F N N W D A N A D I M T R N E

TTGGTGCTGGGAGATTTTCTGCCAAATAATGTGGATGGTTCTCTGCAATTCCTCATG  
AACCACAGACCCCTCTAAAAGACGGTTTATTACACCTACCAAGAGGACGTTAAGGAGTAC  
F G V W E I F L P N N V D G S P A I P H

68/75

Fig.12  
SHEET 4

SnaBI

GGTCCAGAGTGAAGATACGTATGGACACTCCATCAGGTGTTAAGGATTCCTTGCTT 840  
CCAGGTCCTCCTCTATGCATACCTGTGAGGTAGTCCACAATTCCTAAGGTAAGGACGAA  
G S R V K I R M D T P S G V K D S I P A

GGATCAACTACTCTTCACAGCTTCCTGTGATGAAATCCATATATAATGGAATATATTGATC 900  
CCTAGTTGATGAGAAGTGTCGAAGGACTACTTTAAGGTATATTACCTTATATAATACTAG  
W I N Y S S Q L P D E I P Y N G I Y Y D

CACCCGAAGAGGAGGTATATCTTCCAACACCCACGGCCAAAGAAACCAAGTCGCTGA 960  
GTGGGCTTCCTCTCCATATAGAAGGTTGTGGTGCCGGTTCTTTGGTTTCAGCGACT  
P P E E R Y I F Q H P R P K K P K S L

GAATATATGAATCTCATATTGGAAATGAGTAGTCCGGAGCCTAAATTAACCTCATACGTGA 1020  
CTTATATACTTAGAGTATAACCTTACTCATCAGGCCCTCGGATTTTAAATTGAGTATGCAC  
R I Y E S H I G M S S P E P K I N S Y V

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Fig. 12  
SHEET 5

Xmn I                      Hind III

ATTTTAGAGATGAAGTTCCTCGCATAAAAAGC TTGGGIACAATGCGGTGCAAATTA  
-----  
TAAATCTCTACTTCAAGAAGGAGCGTATTTTTTCGAACCCATGTTACGCCACGTTAAT  
-----  
N F R D E V L P R I K K L G Y N A V Q I

1080

TGGCTATTCAAGAGCATTCTTATTATGCTAGTTTTGGTTATCATGTCACAAAATTTTTTG  
-----  
ACCGATAAGTTCICGTAAGAATAATACGATCAAAACCATACTACAGTGTTTAAAAAAC  
-----  
M A I Q E H S Y Y A S F G Y H V T N F F

1140

CACCAAGCAGCCGTTTTGGAACGCCCGACGACCTTAAAGTCITTGATTGATAAAGCTCATG  
-----  
GTGGTTCGTCGGCAAAACCCTTGGGGCTGCTGGAATTCAGAACTAACTATTTTCGAGTAC  
-----  
A P S S R F G T P D D L K S L I D K A H

1200

Nsi I

AGCTAGGAATTGTIGTTCATGGACATTGTTTCACAGCCATGCATCAAAATAACTTTTAG  
-----  
TCGATCCTTAACAACAAGAGTACCTGTAAACAAGTGTCGGTACGTAGTTTATTATGAATC  
-----  
E L G I V V L M D I V H S H A S N N T L

1260



70/75

Sac I

ATGGACTGAACATGTTGACGGCACCAGATAGTTGTTACTTTCACTCTGGAGCTCGTGGTT  
TACCTGACTTGTACAAACTGCCGTGGCTATCAACAATGAAGTGAGACCTCGAGCACC  
D G L N M F D G T D S C Y F H S G A R G

1320

ATCATGGATGTTGGGATTCGCCCTTTTAACTATGGAAACTGGGAGGTACTTAGGTATC  
TAGTAACCTACACCCCTAAGGGCGGAAATTTGATACCTTTGACCCCTCCATGAATCCATAG  
Y H W M W D S R L F N Y G N W E V L R Y

1380

TTCTCTCAAATGCGAGATGGTGGTTGGATGAGTTCAAAATTTGAIGGATTTAGATTGATG  
AAGAGAGTTTACGCTCTACCCACCAACCTACTCAAGTTTAACTACCTAAATCTAAACTAC  
L L S N A R W W L D E F K F D G F R F D

1440

GTGTGACATCAATGATGTATACTCACCACGGATTATCGGTGGGATTCTGGGAACCTACG  
CACACTGTAGTTACTACATATGAGTGGTGCCTAATAGCCACCCTAAGTGACCCCTTGATGC  
G V T S M M Y T H H G L S V G F T G N Y

1500

Fig. 12  
SHEET 6



71/75

Hinc II

AGGAATACTTTGGACTCGCAACTGATGTGGATGCTGTGTGTATCTGATGCTGGTCAACG 1560

TCCTTATGAACCTGAGCGTTGACTACACCTACGACAACACATAGACTACGACCAGTTGC

E E Y F G L A T D V D A V V Y L M L V N

ATCTTATTCATGGCCTTTCCAGATGCAATTACCATTTGGTGAAGATGTTAGCGGAATGC 1620

TAGAATAAGTACCCGAAAGGGTCTACGTTAATGGTAACCACTTCTACAATCGCCTTACG

D L I H G L F P D A I T I G E D V S G M

CGACATTTTGTATTCGTTCAAGATGGGGTGTGTGGCTTIGACTATCGGCTGCATATGG 1680

GCTGTAAACATAAGGGCAAGTTCTACCCCCACAAACCGAACTGATAGCCGACGTATACC

P T F C I P V Q D G G V G F D Y R L H M

CAATTGCTGATAAATGGATTGAGTTGCTCAAGAAACGGGATGAGGATTGGAGAGTGGTG 1740

GTTAACGACTATTTACCTAACTCAACGAGTCTTTGCCCTACTCCTAACCTCTCACCCAC

A I A D K W I E L L K K R D E D W R V G

ATATTGTTTCATACACTGACAAATAGAAGATGGTCGGAAGAGTGTTTCATACGCTGAAA 1800

TATAACAAGTATGTGACTGTTTATCTTCTACCAGCCTTTTCACACAAAGTATGCGACTTT

D I V H T L T N R R W S E K C V S Y A E

72/75

Fig 12  
SHEET 8

1860  
GTCATGATCAAGCTCTAGTCGGTGATAAACTATAGCATTCGGCIGATGGACAAGGATA  
CAGTACTAGTTCGAGATCAGCCACTATTTTGATATCGTAAGACCGACTACCTGTTCCTAT  
S H D Q A L V G D K T I A F W L M D K D

1920  
TGTATGATTTTATGGCTCTGGATAGACCGCCCAACATCATTAATAGATCGTGGGATAGCAT  
ACATACTAAATACCGAGACCTATCTGGCGTTGTAGTAATTAATCAGCACCCCTATCGTA  
M Y D F M A L D R P P T S L I D R G I A

Asp 718  
Kpn I

1980  
TGCACAAGATGATTAGGCTTGTAACCTATGGGATTAGGAGGAGAAGGTACCTAAATTCA  
ACGTGTTCTACTAATCCGAACATTGATACCCCTAATCCCTCCTCCTCCCATGGATTAAAGT  
L H K M I R L V T M G L G G E G Y L N F

EcoR I

2040  
TGGGAATGAATTCGGCCACCCCTGAGTGGATTGATTTCCCTAGGGCTGAACAACACCTCT  
ACCCCTTACTTAAGCCGGTGGGACTCACCTAACTAAAGGGATCCCGACTTGTGTGGAGA  
M G N E F G H P E W I D F P R A E Q H L

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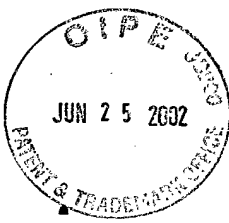




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PCT/GB96/01075



73/75

Fig.12  
SHEET 9

2100  
CTGATGACTCAGTAATTCCCGGAAACCAATTCAGTTATGATAAATGCAGACGGAGATTTC  
GACTACTGAGTCATTAAGGGCCCTTTGGTTAAGTCAATACTATTACGTCIGCCCTCTAAAC  
S D D S V I P G N Q F S Y D K C R R R F

Ssp I

2160  
ACCTGGGAGATGCAGAATAATTAAGATACCGTGGTTGCAAGAAATTTGACCGGGCTATGC  
TGGACCCCTCTACGTCCTTATAAATCTCTAATGACCCCAACGTTCTTAAACTGGCCCGATACG  
D L G D A E Y L R Y R G L Q E F D R A M

2220  
AGTATCTTGAAGATAAATATGAGTTTATGACTTCAGAACACCAGTTTCATATCAGAAAGG  
TCATAGAACCTCTATTTTACTCAATACTGAAGTCTTGGTCAAGTATAGTGCTTCC  
Q Y L E D K Y E F M T S E H Q F I S R K

2280  
ATGAAGGAGATAGGATGATTGTATTGAAAAAGGAAACCTAGTTTTTGCTTTAATTTTC  
TACTTCCTCTATCCTACTAACATAAACTTTTCTTTGGATCAAAACAGAAATTAAAG  
D E G D R M I V F E K G N L V F V F N F

2340  
ACTGGACAAAAAGCTATTCAGACTATCGCATAGGCTGCCIGAGCCTGGAAAATACAAGG  
TGACCTGTTTTTCGATAAGTCTGATAGCGTATCCGACGGACTTCGGACCTTTTATGTTC  
H W T K S Y S D Y R I G C L K P G K Y K

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2400  
TTGCCCTTGGACTCAGATCCACTTTTTTGGTGGCTTCGGGAGAAATTGATCATATAATGCCG  
AACGGAAACCTGAGTCTACTAGGTGAAAAAACCCGAAGCCCTCTTAAGTAGTATTACGGC  
V A L D S D D P L F G G F G R I D H N A

**Sp**

...  
 AAATAATTTACCTTTGAAGGATGGTATGATGATCGTCTCGTTCAATTATGGTGTATGCAC  
 TTTATAAGTGGAACCTTCCTACCATCTACTAGCAGGAGCAAGTTAATACCACATACGTG  
 E Y F T F E G W Y D D R P R S I M V Y A

CTTGTAGAACAGCAGTGGTCTATGCACTAGTAGACAAAGAAGAAGAAGAAG  
GAACATCTTGTCGTCACCAGATCGTATCTGTTCTTCTTCTTCTTCTTCTTC  
P C R T A V V Y A L V D K E E E E E

AAGAAGAAGTAGCAGTAGTAGAAGAAGTAGTAGAAGAAGTAGAAGAACTTGTG  
 TTCTTCTTCATCGTCATCATCTTCTTCATCATCATCTTCTTCTTACTTGTGTTGAACAC  
 E E E V A V V E E V V V E E E

2578

Fig 12  
SHEET 10

75/75

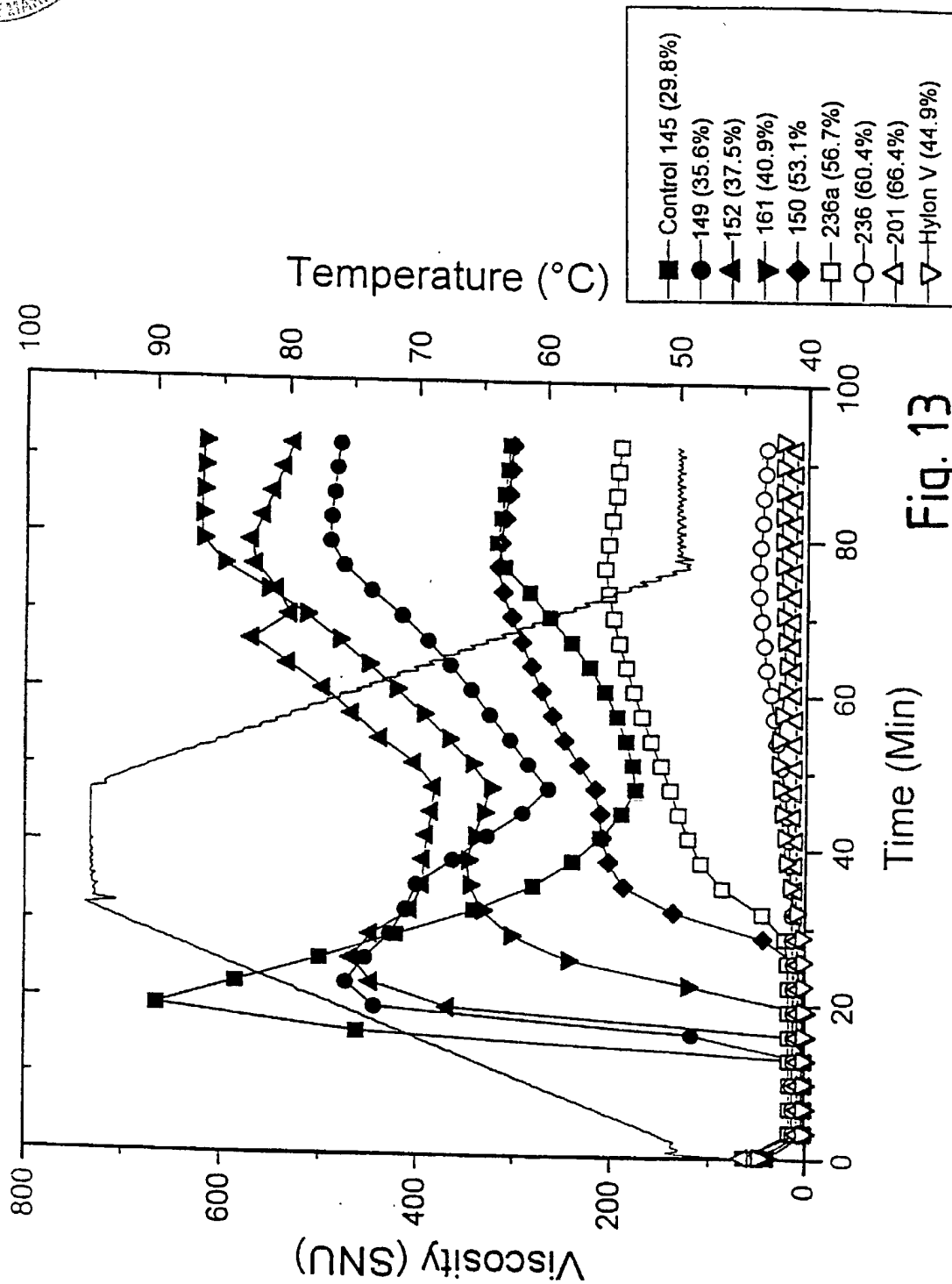
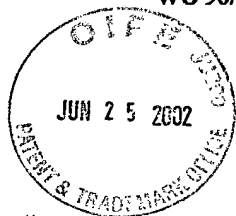


Fig. 13